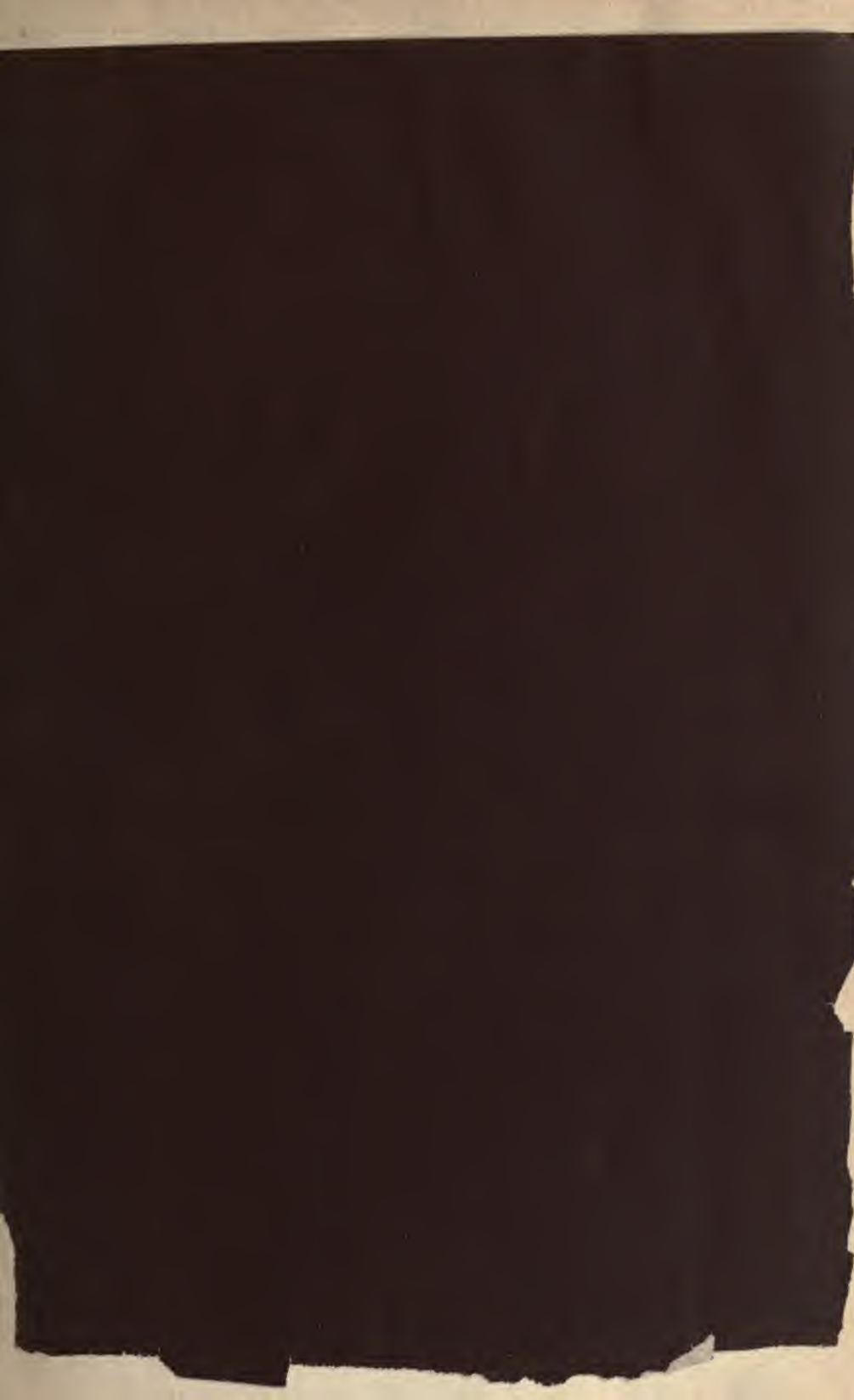


THE AMERICAN WORKMAN

BY E. LEVASSEUR




STUDIES IN HISTORICAL & POLITICAL SCIENCE





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THE AMERICAN WORKMAN



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BY

E. LEVASSEUR,

MEMBER OF THE INSTITUTE, PROFESSOR IN THE COLLEGE OF FRANCE
AND IN THE CONSERVATORY OF ARTS AND CRAFTS

An American Translation

By THOMAS S. ADAMS, PH. D., Johns Hopkins University

Edited by

THEODORE MARBURG, of Baltimore

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EDITOR'S PREFACE

Emile Levasseur, the author of the "American Workman," is a sincere and earnest man. The position he has occupied for more than a generation in the learned circles of Europe he owes not alone to his industry, knowledge and faculty for expression, but to a penetrating intellect and an unusual quality of final judgment of principles and events. It is valuable to have the vast material embraced in the present study pass through the mind of such a man, and to have his pronouncements upon the important questions raised. It will be found that he has brought to the task an admirable understanding of America and sympathy with it. His comprehensive knowledge of the past and of cotemporary conditions elsewhere and his long experience as a leader of thought in his own country enable him to give to the subject a proper perspective. Moreover the tribute he pays to American ingenuity and progress comes with better grace from him and bears a stamp of greater impartiality than if emanating from one of our own citizens.

The translator, Thomas S. Adams, is a thoroughly trained economist. His work has been faithfully and ably done. Added value has been given the study by the degree to which Mr. Adams has enlarged the statistics. So far as possible all statistics have been brought down to date. Where the early figures had no particular significance, they were simply replaced by later ones. In other cases a new note has been added or an old one expanded. The additions of the translator are noted thus: [Tr.]

Professor Richard T. Ely brings to the attention of the editor the fact that his "Labor Movement in America" referred to by Professor Levasseur was written nearly fifteen years ago, that not merely have conditions changed since then, but that he has modified somewhat the opinions expressed therein.

THEODORE MARBURG.

AUTHOR'S LETTER TO THE TRANSLATOR

DEAR SIR AND COLLEAGUE:

Upon my first visit to America I was impressed from the beginning with the economic activity that appeared on every side. After having spent several months in visiting the Centennial Exposition, schools, manufacturing industries and several large cities, I came away with the conviction that the transformation of the immense territory of the United States into a rich and civilized country, settled and cultivated scarcely more than a century, was due less to the natural qualities of the soil, however great they might be, than to the genius of the American people. I felt that the moral causes of this magnificent development contained useful lessons for the rest of the world, and that they merited special study on this account.

In 1893 I returned to America with the design of undertaking the present study. "You will find great changes" remarked an eminent historian and philosopher before my departure.

And the changes did, indeed, seem very great. It is not in the American character to rest satisfied with past achievement; it is always pressing ahead. New lands brought under cultivation, a prodigious increase of mechanical power, of industrial concentration, and of products, a multiplication of the means of communication, of large associations of capital, wider organization of the laboring class, and extension of education: in all branches of social and economic activity I found remarkable development.

From the great number of subjects presented I had chosen in advance the organization of industry and the condition of the laborer, his relations with the entrepreneur and the state of his well-being considered as a private individual. The emphasis was placed upon the latter half of

the subject, and on my return to France I devoted four years to writing *The American Laborer*.

The United States constitutes the largest and most active laboratory of economic experiment in the world, and the so-called labor questions which agitate it, being the same as those which occupy the attention of Europe, I believed that such a publication would not only further the cause of science but that it might enlighten my own countrymen upon problems which they themselves have to settle, or at least to comprehend.

I also believed that such a study, grouping in one picture a multitude of facts usually scattered throughout a great number of different writings, and pursued in a spirit strictly scientific—with impartiality, but with sympathy—might be not without value to American readers. A foreigner sees the movement of a nation's life from a point of view different from that of the citizen interested and involved in the movement.

The difficulty in the way of interesting an American audience was the language and the length of a work in two volumes. To Mr. Theodore Marburg and yourself, my grateful acknowledgments are due for the solution of this difficulty; to Mr. Marburg for editing and providing for the publication of the English edition in the *JOHNS HOPKINS UNIVERSITY STUDIES*, and to you for the translation and condensation of the work into a single volume.

I have read your translation in manuscript, with pleasure, and at your suggestion have modified several statements of the original study. I am indebted to you also for the introduction of the more recent statistics.

If, as I have hoped, the book renders some service to economic study in America, our mutual labors will have been rewarded.

Sincerely,

E. LEVASSEUR,

26 Rue Monsieur-le-Prince, Paris, September 12, 1900.

PREFACE

In 1893 the *Académie des Sciences Morales et Politiques* entrusted to me the economic inquiry annually assigned to some member, and instructed me to study the condition of the laboring classes in the United States.

I had made one visit to America in 1876. I made a second in 1893, in order to accomplish this mission, and spent five months in visiting factories, workshops and the homes of workingmen. During this time I endeavored to instruct myself by making the acquaintance of manufacturers, economists, and statisticians, to gather information by conversation and reading, and to collect the literature relating to my subject. Since my return I have devoted more than three years to elaborating this and other material which has been sent to me, as it was published, by my order or through the courtesy of obliging colleagues. I thank them for their invaluable co-operation.¹

¹ My acknowledgments are due, first of all, to the Hon. Carroll D. Wright, Commissioner of Labor, who while I was in America had the kindness to place me in communication with prominent manufacturers and with his colleagues, the chiefs of the State labor bureaus. Since my return he has aided me not only by sending me the important publications of his department, but by generously providing for the revision of the proofs of these two volumes. I include in my acknowledgments Mr. W. F. Willoughby, who was in immediate charge of this revision, and whose counsel has been most helpful. I wish to thank, also, Professor Mayo-Smith of Columbia University, who, happening to be at the same watering place as myself, kindly consented to read over the second and third parts; Mr. Sullivan, a member of the American Federation of Labor, who read the proof sheets of several chapters while he was in Paris towards the close of 1896, and gave me the benefit of his wide knowledge of labor problems; Mr. Gerin Lajoie, a Canadian physician whom I had the pleasure of meeting in Nashua, and later, in Paris; and Mr. Schaefer, an Alsatian, now living in Manchester, New Hampshire.

Several times while the book was being written, I made the economic condition of the United States the subject of my course of lectures at the *Collège de France*, and I thus found it necessary not only to study the subject in detail, but to present my results as clearly as possible. During this time I contributed several extracts from the work to the reviews, particularly American reviews, in the hope of evoking criticisms which would help me to improve the work; several chapters, as they were written, I read before the Academy. I now present, in these two volumes, the complete result of my study of the American laborer.

The work is divided into three parts. In the first, the Laborer at Work, I have considered the toiler. I have treated him in connection with the employer, and with the workshop where he spends his working day; in his relations to production, of which he is an agent, and with whose increase his interests are intimately connected; as a member of those associations by which he hopes to regulate to his advantage the conditions of the wage-contract. I have illustrated and discussed factory legislation, described the strike, and examined the various questions that arise in this connection; the rate and variation of wages, non-employment caused by crises and slack seasons, competition with American labor created by immigration. From this study of facts I have attempted to evolve the law of wages and discover the causes which regulate the price of labor, purposely confining myself to a statement of the opinions of American writers who have treated the subject.

In the second part, the Laborer at Home, I have considered the man. I have described his manner of life, his food, dress, dwelling, recreations, habits. In the first part, the investigation centered around the workshop. Here, the family is the center of the investigation. The Laborer at Work ends with a study of nominal wages. The Laborer at Home ends with a study of real wages—the sum of well-being which the laborer as a man procures with the money he receives as a workman.

If the first two parts are devoted to facts, the third part, I may almost say, is devoted to theories. In this part, *Labor Problems*, I have considered the antagonism between capital and labor, the perpetual contrast between poverty and luxury, the dependence of the employee upon the employer, the precarious livelihood and the scant comfort of the masses that live by their daily toil; finally, the causes which array one part of the laboring classes against the existing organization of society, inspire generous spirits with the desire of assisting their fellows, and to curious or speculative minds, suggest theories of social transformation by which they hope to eradicate positive evils. This is why I have found it necessary to describe the work of poor-relief, public and private, to examine the various forms of co-operation and employers' relief—particularly profit-sharing and productive co-operation—to investigate the extent to which arbitration and conciliation have proved useful in industrial disputes, to discuss the assertion that the protective tariff is the bulwark of high wages, to describe the experiments of socialistic settlements and depict the diverse theories and working policy of socialism. In the last chapter I have briefly recapitulated the principal conclusions to which the study of facts has led me, and have ventured to cast a glance into the future which presents conditions seeming to promise for American industry and American labor.

I have adopted this plan because it seemed clear and logical for a work which is essentially an economic history.

Economic truths possess an interest of their own, independent of the inferences that can be drawn from them. One must have facts to grasp a situation or discuss a question with authority. The author's task is to gather accurately the greatest possible number of facts; to select, soberly and critically, those most fitted to characterize the situation; and finally, to group and exhibit them in an orderly arrangement so as to form, where possible, an instructive picture.

Furthermore, these facts have causes and consequences. It is another duty of the author to present them in such a way that cause and consequence will appear in their proper relation, or at least be distinguishable.

In economic history, as I understand it, the author is not a mere annalist; he is philosopher as well, who draws a moral from experience and attempts to enlighten economic practice by quoting the past at the same time that he labors to improve economic theory by investigating the laws which govern facts. Hence, while yielding the principal place to facts, he must review and pass judgment upon them. To be sincere and well informed, to possess the judicial mind and a knowledge of the general principles of political economy, these are the essential qualifications for the writer who would treat questions of this nature.

The great historian of the revolution and the empire, Thiers, has compared the historical work to a perfectly transparent glass, through which every object is seen as in the plane of a perspective. To my mind, he asks at once too little and too much. The historian cannot show everything, nor should he attempt it. Composition always requires selection and arrangement, and every writer, whether he is conscious of it or not, is a judge. To continue the analogy, I should say that the glass through which he causes the objects to be seen, may distort the images. But if the narration has been sufficiently faithful, the reader will have enough facts at his command, will be able to view them without the lens of the author, and may accept or reject the author's interpretations.

There has been, and there will continue to be, much discussion as to the use of the historical method in political economy. Among economists, as in many other professions, there are a few narrow minds who are never able to see more than one side of a question. Some, starting from the principles that human society is in a state of unceasing evolution and that economic phenomena are mere

accidents of time and place, tell their story without caring to finish it and without attempting to look beneath the surface for the economic law in whose existence they do not believe. These are the annalists; they are not the real historians of political economy. Equally as unworthy of the title, are those who manipulate their facts as they would an army, bending the lines of history to fit the plan of their own preconceived campaign.

Others declare that political economy is a science which has need of only a very limited number of observations to establish its fundamental laws upon a solid basis. These maintain that the essence of phenomena is always the same; they are convinced that a multiplicity of historical detail adds nothing, in fact, that it has the actual disadvantage of obscuring the process of deduction by introducing differences based upon wholly accidental conditions. Holding their views, one would be at a loss to construct a system of natural laws from the conglomeration of abnormalities and economic errors which are so frequent in human societies. Such economists are pure theorists, and regard the science as wholly deductive and rational.

There undoubtedly exists a special order of facts known as *economic*, which, without being the single center whither all the interests, ideas, and passions of humanity gravitate, forms nevertheless one of the pivotal points of the social movement. But this class of facts is intimately commingled with other social phenomena, and, after it has been isolated for the purposes of analysis, it cannot be rightly understood until it is studied in connection with the whole social movement peculiar to each nation and each epoch. It may be the subject of special study: it should be and it is, precisely, the subject-matter of economic science. It may be asserted that this science is at present incapable of complete development, on the grounds that contradictory and irreconcilable judgments often manifest themselves in the interpretation of economic facts,

and that the social sciences, in conformity with the society they study, are in a state of perpetual becoming. But it cannot be doubted that we have here the subject-matter of a science.

In general, the economists of the first part of the nineteenth century were theorists: Ricardo and Rossi, for instance, belong to this category. During the second half of the century more attention has been paid to historical research, the observation of phenomena, the condition of the people; and while these researches have enlarged the horizon and confirmed certain laws, they have also shaken the faith that was once reposed in the universality of others. Roscher was one of the masters who blazed the new path, and it was in his footsteps, some forty years ago, that I entered the domain of economic science, through the door of history, by writing the *Recherches Historiques sur le Système de Law*, and afterwards, the *Histoire des Classes Ouvrières en France*.

In a field so vast as economics, the student may take up the work at many different points and still produce fruitful studies. It has been said that political economy is a physico-social science. I add that it is more social and moral than physical, because the content of the science consists principally of the relations established between men in the exchange of goods and services, even though its subject—wealth—is material. Having a definite scope and a number of solidly established principles, political economy seems to be more advanced than most of the moral sciences.

The theoretical school expounds the science, or some division of it, by a methodical concatenation of propositions, and arrives at simple and logical conclusions through the processes of deduction. The experimental school presents the subject in a more concrete way by endeavoring to found its demonstrations upon positive proofs; but, though resting upon history, it has a dogmatic doctrine of its own. Observation preserves this school from the dan-

ger of losing its qualities of reality and fruitfulness, allows it to test the doctrines of the deductive school, to penetrate the secrets of the life of nations, and thus to interpret the diversity of phenomena at a given epoch, or their variation from one epoch to another. As the material interests of society change, the experimental science may extend its researches and the bearing of its doctrines, and show the intimate relation that always exists between economic phenomena and the whole social being.

Like all the moral sciences, political economy gives rise to various schools which sometimes succeed one another and sometimes exist side by side, struggling for the supremacy. I would class myself with the liberal school, the school which is sometimes called *classical*, sometimes *orthodox*, though both terms are unfortunate. Orthodoxy in science should be unknown, and there is nothing truly classical but the truth. No sincere effort to clear or cultivate the domain of economics is out of place. There is room for all: the narrator who is content to record facts; the statistician who enumerates them; the mathematician who, at a great risk of failure, attempts to fix in algebraic formulæ the relations resulting from exchange. "Each study supplements the other; there is no rivalry or opposition between them," Professor Marshall has said. I prefer this attitude to that of those economists who feel themselves obliged to tear preceding theories to pieces in order to call attention to their own innovations. They do not perceive that besides incurring the reproach of undue severity and lack of modesty, they discredit the authority of their own science. A small herb may be planted anew each year, but a great tree, that is to live through the centuries, retains its general form and develops by the gradual addition of branches and the slow renewal of its tissues.

Economic history has a prominent part in this harmonious development. It is true that the economist needs no history to establish certain simple notions, such as the axioms that production results from the co-operation of

three factors, and that value is a ratio fixed by exchange between two quantities of commodities, although these concepts, like others, were only gradually evolved and formulated in the works of the masters. But to differentiate accurately the rôles of the three factors in past and present combinations of human industry, or to ascertain the relation of the methods of exchange to the general social economy of nations, we must have recourse both to history and a minute analysis of a large number of facts.

The human mind has a natural inclination to simplify and generalize; it is one of its innate philosophical properties. The economist obeys this inclination when he seeks to find the explanation of his phenomena in a single cause and condense its expression in a brief formula. But economic like all social phenomena are often the resultants of complex and even conflicting forces which do not lend themselves to this reduction. Such, it seems to me, is the law of population. In a theoretical chapter of my work *La Population Française*, I have criticised the law which Malthus proposed, while eulogizing the author, and have tried to express it by a more flexible and comprehensive group of causes. In conformity with the same method, I have attempted in two chapters of the present work to enumerate and measure the influences affecting wages, and to gauge the interaction of the rate of wages and the standard of comfort of the laboring class. This is one of the principal theoretical subjects which I have proposed to myself in writing *The American Laborer*.

Every economic movement does not necessarily lead to a formula, though the common basis of all is theory. Many of these movements cannot be ignored by the economist, because they raise questions which are continually being thrust forward and which cannot be left unanswered. The labor problems are of this number: they have become social and political questions of the gravest importance. Many of those who concern themselves with these questions regard them as the greatest menace of our times;

others hail them as the prelude to a social regeneration. I prefer to see in them an evolutionary crisis which conflicting passions, rather than divergent interests, have in our day rendered acute. In all probability we shall be troubled with them for a long time. But from the very nature of things, the conflicting interests must finally be brought into harmony, passions be softened by a better provision for the contingencies that arise, and this without changing the basis of social organization necessary to the progress of civilization and the economical functioning of society. In this connection, without being absolutely optimistic, I gladly apply to Europe what I say of America at the end of this work: *Fata viam invenient*. For although it is manifest that the equilibrium between the political and economic powers of every nation must in time be disturbed, and that the relations between the social classes must be modified by the progress of democracy and the development of industry, it is impossible that the whole civilization of the world should suffer an eclipse so long as science, liberty and individual enterprise exist.

The transformation of small manufactures and the growth of the unit of industry, the regulation and inspection of factories, the employment of machinery and manual labor, the work of women and children, the competition between native and imported labor, apprenticeship and manual training, the mode of payment and the rate of wages, the causes and effects of the diversity of wages, profit-sharing and premiums for fast work, strikes and lock-outs, arbitration and conciliation, the conditions of living and the lodging of the working classes, the influence of the standard of comfort upon the rate of wages, saving and foresight in workingmen's families, pauperism and poor-relief, employers' aid, labor-unions and associations of employers, co-operative production and consumption, the propaganda of a spirit of antagonism between employer and employee, the desire for revolution common to all systems of socialism in spite of their diversity: these

are some of the facts, movements and problems which are to-day presented in the industrial world. They are often spoken of collectively as the *labor question* or the *social question*, but they are really distinct problems for the most part, incapable of settlement by a single solution. While we are not to lose sight of the bonds that unite them, we must study them one at a time, trace out the cause, the essence, the effect of each movement, and, where it is possible, the special solution of each problem. As a rule, this group of facts and ideas is the more varied, animated, and important as the industrial centers in which they manifest themselves are freer, larger and more active. In these three qualities the United States yield place to none. Thanks to the number of inhabitants, the spirit of enterprise and the industrial freedom which characterize them, they have come to be a laboratory for social and industrial experiments, vaster and more active than any other in the world.

It is fitting that we should study them; for their own sake, in the first place, that we may know the United States; in the second place, for the inspiring example they offer science in its task of solving similar problems in Europe. This is why I have written *The American Laborer*.

E. LEVASSEUR.

CHAPTER I.

THE PROGRESS OF AMERICAN INDUSTRY IN THE LAST FIFTY YEARS



BRIEF COMPARISON BETWEEN THE STATISTICS OF AGRICULTURE AND MANUFACTURES; THE VALUE OF CENSUS STATISTICS

Agriculture is the principal source of wealth in the United States, and, as I have shown in my work, *L'Agri- culture aux États-Unis*, it has undergone a notable development since the Civil War.¹ The progress of manufactures, which develop later than agriculture, has been even more rapid in the last twenty-five years, and although the statistics are not accurate enough to permit an exact measurement of the importance of this change, some idea of it may be obtained from a comparison of the census statistics of 1880 with those of 1890. In 1880 the capital employed in agriculture was estimated at \$12,104,001,538, the value of agricultural products at \$2,212,540,927. In

¹ It is noteworthy, however, that at first, the colonial promoters looked to manufactures rather than to agriculture for their profits. In his second voyage to the United States, Captain Newport brought over a number of workmen skilled in the manufacture of pitch, tar, glass, soap-ashes, etc., who were employed in various forest industries. The directors of the London Company having threatened to abandon the colonists unless some return for their adventure was forthcoming, Captain Smith made an immediate shipment of cedar posts, walnut boards, and other products of their industrial experiments. The attempts at manufacturing were but moderately successful. In ten years the workshops were in ruins and the colonists had turned to the cultivation of tobacco. See *The Industrial Evolution of the United States*, by Carroll D. Wright, p. 23.

1890 the capital had increased to \$15,982,267,689 and the value of the products to \$2,460,107,454. The capital employed in manufactures was estimated at \$2,790,272,606 in 1880 and at \$6,525,156,486 in 1890. The respective valuations of manufactured products in 1880 and 1890 were \$5,369,579,191 and \$9,372,437,283.

The truth of these figures cannot be admitted. It is impossible to believe that the value of the manufactured products is actually four times as great as that of the agricultural products, or that the value of the products manufactured in one year greatly exceeds the capital employed in their production. The valuation of the products is plainly exaggerated. This exaggeration is accounted for by the following facts. Agricultural produce is generally valued at the farms and is counted but once. Manufactured products, on the other hand, are counted at each factory and the same raw material figures in a series of values which increase every time the material passes from one manufacturer to another.²

The figures of one census are not strictly comparable with those of another, even when we confine ourselves to manufactures. Statistics of this kind are always and everywhere mere approximations, often vague, often purposely false, and in the United States, the form of inquiry and the mode of grouping the returns vary from one census to another.

In the census of 1890, an effort was made to avoid these errors by distinguishing the value of the material from that of the product, and by preparing a comparative table which included only those industries investigated in both

² The American statisticians, and Col. Wright in particular, realize that the estimates of the manufactured product are excessive. As Col. Wright expresses it: "No calculation has been made in any case which would eliminate the raw material; so there is a constant duplication, and sometimes a reduplication of values in the value of the product, because the raw material of one manufacturer is the finished product of another."

the tenth and the eleventh censuses.³ Subtracting the value of the material from that of the product, the surplus created by the process of manufacture was found to be about two billion dollars in 1880 and about four billion in 1890. But this correction—a very delicate one—is insufficient. I cannot believe that a value greater than that of the aggregate agricultural product has been added by the process of manufacture, and if some duplication did not remain, we should not find five billion dollars' worth of raw material consumed in the manufacturing industries of a country in which agriculture yields less than two and one-half billion. However, as the same method of computation was employed in 1880 as in 1890, the apparently legitimate conclusion is reached that the value of manufactured products has increased about sixty-nine per cent. in the ten years 1880-1890, while the agricultural product has increased in value (a very different thing, it should be noted, from an increase in quantity) only about nine per cent. It will not do to press the comparison too far, however, and conclude that there has been an increase of just sixty-nine per cent. in ten years. In spite of the care taken to compare only those industries which appear in both documents, it is probable that the figures still fail to represent units of exactly the same kind.

By far the most defective item in the statistics of manufactures is that of capital.⁴ It is represented to be very

³ Comparative statement of the growth of manufactures (taken from the *Abstract of the Eleventh Census*):

	1880.	1890.	Per cent. of increase.
Number of establishments reporting	253,502	322,638	27.3
Capital	\$2,780,766,895	\$6,139,397,785	120.8
Miscellaneous expenses		\$615,337,620	....
Total number of employees (average)	2,700,732	4,476,884	65.8
Total wages	\$939,462,252	\$2,171,750,183	131.2
Cost of materials used	3,395,925,123	5,021,453,326	47.9
Value of products	5,349,191,458	9,056,764,996	69.31

⁴ Superintendent Walker of the Tenth Census explained this defect and quoted a proposal, made by himself at an earlier date, to abandon this inquiry. "The census returns of capital are entirely

much less than the value of the annual product—a very doubtful proposition if real estate be included in capital. In the censuses previous to 1890 the value of the product averages about twice as much as the capital. In these censuses it is known that some manufacturers counted their real property when they owned it, while others omitted the real property when they held it by lease. There were probably some who made false declarations in order not to disclose their real conditions and expose themselves to increased taxation. The rise of capital in 1890 to a figure greater than one-half that of the product, is explained by the fact that in the eleventh census the inquiry concerning capital was modified. The amount, however, is probably still too small.

In comparing statistics of the United States for two different epochs, or in comparing them with the statistics of France or England, two considerations should be kept in mind: (1) that in 1790 the area of the United States was 827,844 square miles and the population 3,929,214, in 1850, the area 2,980,939 square miles and the population 23,191,876, while in 1890, the area (including Alaska) was 3,558,009 square miles and the population 62,622,250; (2) that consequently, in 1890, the statistics apply to a territory (Alaska excluded) more than twenty-five times as large as that of the British Isles and more than forty times that of France, and to a population which is from sixty-six to seventy per cent. greater than that of either of these states.

With the preceding reservations, a comparison of census statistics may be made very instructive. The comparison may be carried back as far as 1850, bearing in mind that the methods have been gradually improved and that the figures are less reliable the further back we go. It should also be noted that, when the census of 1870 was

untrustworthy and elusive. The inquiry is one of which it is not too much to say that it ought never to be embraced in the schedules of the census." *Tenth Census*, "Statistics of Manufactures," p. xxxix.

taken, the United States was under a régime of depreciated paper money and prices were inflated. For this reason no valid comparison of values can be made without expressing them in gold.

GENERAL TABLE OF MANUFACTURES.

Year.	Number of establishments.	Capital. (000,000's omitted.)	Average number of employees per year. (000's omitted.)	Total value of products. (000,000's omitted.)
1850 ¹	123,025	\$ 533	957	\$1,019
1860	140,433	1,009	1,311	1,885
1870 ² .....	....	....	....	4,232
1870 ³	252,148	1,694	2,054	3,385
1880	253,852	2,790	2,732	5,369
1890 ⁴	355,415	6,525	4,712	9,372

¹ From 1850 to 1870 only those establishments were enumerated whose production exceeded \$500. ² Currency values. ³ Gold values.

⁴ In 1890 the value of products included receipts from repairing. Capital and employees were tabulated according to a classification different from that employed in the preceding censuses.

From this table, several numerical conclusions concerning the development of manufactures may be drawn: (1) The number of establishments seems to have tripled since 1850, and to have increased about 40 per cent. from 1880 to 1890. In reality the increase has not been so great, because the enumeration has become more complete. (2) Since 1850 the value of the products is shown to have increased about ninefold, and the rate of increase per decade has varied from fifty-eight to eighty-five per cent. (3) The number of employees has increased fivefold since 1850, the increase per decade varying from thirty-three to seventy-two per cent. (4) The difference between the increase of the product and that of the employees seems to indicate that the average productivity of the laborer has increased. The comparative statement quoted on page 19 confirms these conclusions, although the latter have little numerical value. They cannot be considered to represent actual relations with any exactitude, because of the inaccu-

racy of the returns, but they indicate a real tendency.⁵ In his *Industrial Evolution of the United States*,⁶ page 187, Col. Wright justly observes that although the limitations of such inferences are very great, a comparison of the aggregate manufactured product in 1790—vaguely estimated at \$20,000,000—with its value a century later—about \$9,372,000,000—furnishes irrefutable proof of a marvellous industrial development.

To give an adequate account of this development it is necessary to examine each branch of industry separately. I shall make a brief examination of the more important industries, borrowing the statistics from various, but always from the most authoritative, sources. The practical unanimity of the results will strengthen the general notion of progress derived from the census statistics.

EXTRACTIVE INDUSTRIES.

Fuels.—Excluding agriculture, the most important group of this class is undoubtedly that of mineral industries, since with agriculture, hunting and fishing, it furnishes the materials for all other industries.

⁵ The census of 1890 was more complete in some parts than that of 1880. See *Compendium of the Eleventh Census*, pt. ii, p. 704. In the decade 1880-1890, for instance, the number of masons is represented as having increased from 16,020 to 119,429, the number of carpenters from 54,138 to 140,120. In these instances, the increase is plainly exaggerated. Col. Wright, who did not take charge of the census until after the material had been gathered, thinks the increase is due to an improved enumeration in the cities and a special enumeration of the hand trades. I shall have occasion to revert, in the chapter on wages, to the estimates given in the reports of the eleventh census. It may be laid down as a general truth, that a census of wealth is more difficult to take than a census of the population, and is exposed to greater errors. Notwithstanding these facts the United States undertakes the former task at each decennial census, and furnishes thereby a store of information that is not accessible in any other country—precious material for economic study when it is used with discretion.

⁶ A clear and adequate résumé of the progress of industry and the conditions of labor in the United States. It is to be recommended on account of the author's profound knowledge of the subject.

The United States has been very liberally endowed by nature with the industrial minerals, although through ignorance or lack of transportation facilities, they remained undeveloped for a long time. From 1830 to 1850, the production of coal increased from 1,300,000 to 57,000,000 tons. This was but a beginning;⁷ the rapid development of this industry has taken place since the Civil War. In addition to the anthracite fields of Pennsylvania and New England,⁸ the following fields have been discovered: the Pacific coast field, the Rocky Mountain, the Illinois or Central and the Michigan or Northern fields, the Triassic field of North Carolina, the western field which occupies a part of Missouri and the neighboring states, and the bituminous field of the Appalachians, underlying almost half of the surface of this great mountain chain for a length of more than 900 miles. The probable area of coal-bearing lands is roughly estimated by the statisticians at 200,000 square miles.⁹ At the Centennial Exposition in 1876, the United States displayed to the world for the first time, its superior resources in this line of production. The an-

⁷ Anthracite has been mined in Pennsylvania since 1820, at which date the Lehigh Coal and Navigation Company began operations at Summit Hill, although only since 1840 has it assumed any importance. In 1833, when M. Michel Chevalier was in America, anthracite was in demand for household purposes, but had scarcely begun to be employed in steam engines. See *Mineral Resources of the United States*, 1883, pp. 11 and 13.

⁸ The New England beds are graphite.

⁹ ESTIMATES PER FIELD FOR 1898.

<i>Anthracite.</i>	Area. Sq. miles.	Product. Short tons.
New England	500	.....
Pennsylvania	480	53,382,644
<i>Bituminous.</i>		
Virginia and North Carolina	2,880	38,938
Appalachian	62,690	114,239,156
Michigan	6,700	315,722
Central	47,750	25,816,874
Western	98,500	13,988,436
Rocky Mountain .....	.....	10,042,759
Pacific Coast .....	.....	2,103,043
Total product including colliery consumption		219,974,667

nual production was then about 50,000,000 tons: in 1899 it amounted to nearly 260,000,000.¹⁰

Adding to the coal production the production of petroleum, which has given rise to so much speculation since 1859,¹¹ and that of natural gas, which is employed for manufacturing purposes,¹² particularly around Pittsburg, it is found that the annual production of fuels exceeds in value \$230,000,000.

¹⁰ *Mineral Resources*, 1898, p. 315. These results are expressed in short tons of 2000 lbs.

The following table shows the progress by decades (long tons of 2240 lbs.):

Years.	Bituminous. (000,000's omitted.)	Anthracite. (000,000's omitted.)
1830.....	1.1	0.2
1840.....	2.1	1.0
1850.....	1.8	3.9
1860.....	5.2	9.9
1870.....	17.6	15.6
1880.....	41.8	28.6
1890.....	99.4	41.5
1893.....	114.6	48.2
1898.....	148.7	47.6

¹¹ The Indians were acquainted with petroleum, but it was not until after James Young discovered how to extract paraffine from it, and the Colonel Drake well was drilled (in 1859), that the production of petroleum assumed a commercial importance. In 1880 there were 86 refineries whose total production was valued at \$43,000,000. In 1889 there were 94 refineries with a product worth about \$85,000,000. The growth of the production is shown in the following table:

Years.	Barrels.
1860.....	500,000
1870.....	5,260,745
1880.....	26,286,123
1890.....	45,822,672
1893.....	48,412,666
1898.....	55,364,233

¹² The natural gas consumed in 1898 was valued at \$15,296,813, and the petroleum at \$44,193,359. The production of natural gas is probably decreasing in quantity, but the value of the production is increasing (\$13,826,422 in 1897, \$15,296,813 in 1898). Petroleum exhibited a similar tendency in 1897-98; the quantity decreased from 60.4 to 55.3 million barrels, while the value of the production increased from \$40,874,072 to \$44,193,359. [Tr.]

The production of coke in the United States has nearly quadrupled in the last seventeen years, rising from 3,338,300 (short) tons in 1880 to 16,047,209 tons in 1898. In the same interval the number of ovens rose from 12,372 to 48,447. Of the latter number, 27,157 were situated in Pennsylvania, and their output constituted two-thirds of the total production in 1898 (10,715,302 tons).

West Virginia came second (twelve per cent. of the total output in 1898). The production in 1898 was the greatest ever recorded in the United States, both in quantity and value. The average price was lower than in 1897 or 1896.

Nonmetallic minerals in general.—After the fuels, structural materials are the most important, although in the United States more houses are built of wood than of brick, and more of brick than of stone. The value of the building stones quarried in Ohio, Maine, Pennsylvania, Massachusetts and other states was estimated in 1898 at \$38,441,354 (about \$10,000,000 less than in 1892); clay products at \$71,597,380; cement at \$9,859,501; brick clay at \$9,000,000; salt at 6,212,554; phosphate rock at \$3,453,460. The total value (spot values at points of production) of the non-metallic mineral products was \$353,419,765 in 1898. In 1880 it was estimated at \$173,279,135.

Total value of metallic products.—The value of the metallic products in 1898 was \$343,400,955. In this total, \$116,557,000 represented pig iron; \$70,384,485, silver;¹³ \$64,463,000, gold; \$61,865,276, copper; \$16,650,000, lead; \$10,385,910, zinc; \$1,188,627, quicksilver; \$1,716,000 aluminum. In other words, there is not a single useful metal or mineral which the United States cannot produce from its own soil. From 1880 to 1892 the value of metallic products increased about sixty per cent. The crisis of 1893 checked production and lowered prices to such an extent that the total value of minerals and metals, which in 1892

¹³ Silver is estimated at its coining value, i. e., 16 to 1. Its market value is more than fifty per cent. less.

was \$648,616,954, fell to \$527,144,381 in 1894. The growth of the metallic and nonmetallic mineral industries, and the temporary depression due to the crisis of 1893, is shown in the appended table.¹⁴

Precious metals.—A little gold was mined in the South in the first part of the century, but for all practical purposes the production of the precious metals in the United States is of comparatively recent origin. It was the discovery of the California placers in 1848 that made the United States an important factor in the gold supply, and the discovery of the Nevada mines in 1859 made it a no less important factor in the production of silver. From 1834 to 1848 the total production of gold was only \$10,536,769. In the ten years 1850-1859 it amounted to \$555,000,000, an average annual production of \$55,500,000. After 1859 the production diminished, reaching a minimum, \$30,000,000, in 1883, but since then it has gradually increased. Omitting the three years 1852-1854, the production of 1897, \$57,363,000, was the largest in the history of the United States. The production of silver gradually increased from \$50,000 in 1857 to \$82,101,000 in 1892. Since that year it has shown a tendency to diminish, the product of

¹⁴ The figures given in the *World Almanac* are larger than the following official figures given in the annual publication: *Mineral Resources of the United States*:

PRODUCTION OF MINERALS.

Years.	Nonmetallic products.	Metallic products.	Total.
1880	\$173,279,135	\$190,039,865	\$369,319,000 ¹
1890	312,770,491	305,735,670	619,506,161 ²
1891	321,756,171	300,232,798	622,988,969 ²
1892	339,900,715	307,716,239	648,616,954 ²
1893	323,219,941	249,981,866	574,201,807 ²
1894	308,486,774	218,168,788	527,665,562 ²
1895	339,715,046	281,913,639	622,628,685 ²
1896	335,139,820	287,596,906	623,736,726 ²
1897	329,113,845	302,198,502	632,312,347 ²
1898	353,419,765	343,400,955	697,820,720 ²

¹ From *Eleventh Census*; \$6,000,000 added for unspecified products.

² From the *Statistical Abstract*; \$1,000,000 added for unspecified products.

1898 being estimated at \$70,384,485, coining value, and \$32,118,420, commercial value.¹⁵

Base metals other than iron.—Copper ore is very abundant about Lake Superior, particularly in the peninsula of Keweenaw, and it contains a larger proportion of copper than most of the European ores. The metal was known to the Indians and had been worked by them, with their tools of chipped flint, before the arrival of European settlers. About 1845 the Americans took up the work with modern machinery, and by 1870 were extracting from the Lake mines about 11,000 tons *per annum*, almost the whole amount produced in America at that time (12,600 tons).¹⁶ Towards 1880 the Butte district in Montana began to attract miners. Ten years later it was yielding more than 50,000 tons a year,¹⁷ and the product of 1890 was nearly doubled in 1898. The United States, with a production of 235,050 tons in 1898, now holds first rank among the copper-producing countries of the world. According to

¹⁵ The production of the precious metals in every fifth year, according to the *Report of the Director of the Mint*, is as follows:

Years.	GOLD.		Total.	Silver. Coining value.	Gold and silver.
	California.	Other States and Territories.			
1845..	.....	\$1,008,327	\$1,008,327	\$50,000	\$1,058,327
1850..	50,000,000	.....	50,000,000	50,000	50,050,000
1855..	55,000,000	.....	55,000,000	50,000	55,050,000
1860..	45,000,000	1,000,000	46,000,000	150,000	46,150,000
1865..	28,500,000	24,725,000	53,225,000	11,250,000	64,475,000
1870..	25,000,000	25,000,000	50,000,000	16,000,000	66,000,000
1875..	17,617,000	15,783,000	33,400,000	31,700,000	65,100,000
1880..	17,500,000	18,500,000	36,000,000	39,200,000	75,200,000
1885..	12,700,000	19,100,000	31,800,000	51,600,000	83,400,000
1890..	12,500,090	20,345,000	32,845,000	70,485,714	103,330,714
1895..	14,928,600	31,681,400	46,610,000	72,051,000	118,661,000
1898..	15,637,900	48,825,100	64,463,000	70,384,485	134,847,485

¹⁶ In 1897 the Lake Superior mines yielded 66,291 tons, but this was only thirty per cent. of the total production.

¹⁷ "To-day the greatest mining camp in the world," *Mineral Resources*, 1891. The Montana production fell off, however, in 1898. The interesting feature of the copper production at present, is the rapid increase in the Arizona output. In 1883 Arizona produced 23,874,963 pounds; in 1893, 43,902,824 pounds; in 1898, 111,158,246 pounds. [Tr.]

Mineral Resources for 1898, the world's production was 432,905 long tons in 1898, of which the United States produced 235,050. *La Statistique de l'Industrie Minérale*, published by the French office of public works, estimated the world's production at 458,000,000 kilograms, of which the United States contributed 292,000,000. The world's production in 1870 was estimated at 94,000,000 kilograms, of which only 12,200,000 were credited to the United States.¹⁸

Lead mining is not conducted on so large a scale, but the growth of the production is remarkable, the output increasing from 17,800 tons in 1870 to 222,000 tons¹⁹ in 1898. The production of zinc increased nearly sixteen-fold between 1873 and 1898; 7,343 tons in 1873, 115,399 tons in 1898.²⁰ The production of *quicksilver* increased six-fold from 1860 to 1880, and although it has fallen off since then,²¹ its production has stimulated silver mining. Manganese, tin, aluminum, nickel, chrome, antimony and platinum are also produced, but in small quantities. Scarcely a single industrial mineral or metal is unrepresented in the catalogue of the natural wealth of this great country, and in the production of several, the United States holds first (*e. g.* in petroleum, copper, etc.) or second (in coal, etc.) rank.

Iron ore.—Iron ore is very abundant, being found in almost every state. The most celebrated mines are those

¹⁸ The increase in production has lowered prices considerably, but the price of copper exhibits an unusual amount of instability. In January, 1880, Lake Superior copper sold for 25 cents a pound in the New York market. In July, 1886, it fell to 10 cents, rose to 17 cents in 1888, and then steadily declined until it reached 9 cents in 1894. Since that year the price has slowly risen, reaching 17 cents in May, 1900.

¹⁹ Short tons unless otherwise stated. The world's production of lead, according to *Mineral Resources* for 1898, p. 246, was 781,694 metric tons, of which 201,452, the largest amount produced by any one country, came from the United States.

²⁰ 89,268 long tons produced (by Illinois, Kansas and Missouri) in 1897, out of a world's production of 437,263 tons.

²¹ 60,000 flasks in 1880, 31,092 in 1898. This is about one-fourth of the total production of the civilized world.

of Lake Superior, which were known to the Indians before the arrival of the Europeans.

In 1845 an Indian chief led a Frenchman to Iron Mountain (the red hematite of the Marquette, Gogebic and Menominee Ranges), not far from Marquette.²² This was probably the beginning of the Lake Superior iron industry, although there was no systematic prosecution of it until after a road, a tramway and finally (1857) a railroad had been built. The Lake region produced almost 14,000,000 (long) tons in 1898. The ore is easily reduced, of superior quality and some of the Wisconsin ores contain more than sixty-four per cent. of iron. Michigan is first in the production of iron ore, followed by Minnesota, Alabama, Pennsylvania and Tennessee, in the order named. The United States do not produce all they consume, however; from 500,000 to 1,000,000 tons are imported annually.²³

Iron and steel industries.—There was no active development of the iron manufacture in the American colonies, until after they had been delivered from the industrial servitude of the colonial era, and necessity had made them industrially self-supporting.²⁴

²² The discovery of the Marquette Range is attributed to Dr. Houghton by the Geological Survey. "When Michigan became a State in 1837 and Dr. Houghton was appointed State geologist, the systematic exploration of the Upper Peninsula was begun. On the failure of the State to raise enough money to carry on the work in detail, he persuaded the authorities at Washington to combine a geological survey with that of the township and subdivision lines; and it was a result of this work that iron ore was first discovered in 1844." Mr. J. E. Jopling, M. E., in the *Nineteenth Annual Report of the Geological Survey*, pt. vi, p. 56. [Tr.]

²³ The total production in the United States was 19,433,716 (long) tons in 1898. This is the largest amount ever produced in any country. Since 1896 the imports of iron ore have fallen off from 682,806 to 187,208 (long) tons. [Tr.]

²⁴ There were, however, some establishments of modest importance during the colonial period. Iron ore was discovered by Raleigh's first expedition in 1585, and in 1608 a small quantity was exported from Virginia. In 1619, 150 laborers were brought from

At the outbreak of the Revolutionary War, Pennsylvania already held first rank in the manufacture of iron. She possessed at that time "probably sixty blast furnaces and forges and several slitting mills and steel works." The furnaces of Cornwall and Warwick were 32 feet high and heated entirely by charcoal.²⁸ They each made from 25 to 30 tons per week, which was regarded as a great feat in those days. The discovery by Hayden in 1789 (or perhaps earlier) of the mines west of the Alleghanies, opened up a vaster field for development.

The production grew rapidly after the war. Furnaces, forges, rolling mills and steel works sprang up in the Juniata valley and that of the Appalachians. After one unsuccessful attempt in 1792, the first foundry was established at Pittsburg in 1803-5. In 1810, out of the 50,000 tons of pig iron produced in the United States, Pennsylvania produced 27,000. In 1831, Pittsburg had two steel works.

England and "an iron work" was established at Falling Creek, a branch of the James River; but the Indians massacred the workmen and burned the works. In 1635 a blast furnace, which remained in operation until the end of the eighteenth century, was built at Pawtucket, Rhode Island. In 1644 a foundry was established at Lynn, Massachusetts, and in 1648, a furnace and a forge, at Braintree, largely through the exertions of John Winthrop, Jr. The Lynn furnace ceased operation in 1680 on account of the difficulty of obtaining fuel.

During the eighteenth century the iron manufacture was also of some importance in New York, New Jersey, Maryland and Pennsylvania. In Pennsylvania iron is first recorded to have been made in 1792, and it is certain that a forge was in existence in 1728. The huge steel chain of 186 tons, with which the Americans blockaded the Hudson during the Revolutionary War, was manufactured by the Sterling forge in New York, from ore mined in the vicinity. In Connecticut and other places steel was manufactured. The three blast furnaces of Pennsylvania were operated by English, Irish and a few German workmen who had slaves under them as laborers. Pig iron sold at the furnaces for £3 6s. per ton, and bar iron at £20 per ton on six months' credit. For the origin and development of the iron manufacture in each of the States, see *Iron in All Ages*, by Jas. M. Swank, 1892.

²⁸ 400 bushels of charcoal were required to produce a ton of hammered bar iron.

Until 1840, all the pig iron was made with charcoal. After many unsuccessful attempts between 1815 and 1840, David Thomas succeeded in running a blast furnace with anthracite, and from the latter year, the use of this fuel made rapid headway in the manufacture of iron. Five years later coke began to be substituted for charcoal, although it was not until after 1850 that the process of smelting with coke and bituminous coal became general. Since that year there has been an interesting contest between these fuels; anthracite coal taking first place in 1855, only to yield it to bituminous, which is cheaper, in 1875. The production of pig iron, classified according to the kind of fuel used in smelting, is shown in the following table:

Years.	Anthracite. Short tons.	Charcoal. Short tons.	Bituminous. Short tons.	Total. Short tons.
1840 .....	.....	.....	.....	321,000
1850 .....	.....	.....	.....	632,000
1854	339,435	342,298	54,485	736,218
1855	381,866	339,922	62,390	784,178
1860	519,211	278,331	122,228	919,770
1865	479,558	262,342	189,682	931,582
1870	930,000	365,000	570,000	1,865,000
1875	908,046	410,990	947,545	2,266,581
1880	1,807,651	537,558	1,950,205	4,295,414
1885	1,454,390	399,844	2,675,635	4,529,869
1890	2,448,781	703,522	7,154,725	10,307,028
1895	1,397,989 ¹	247,895 ²	8,745,075 ³	10,390,939 ⁴
1898	1,323,600	326,425	11,301,302	12,951,327
1899 .....	.....	.....	.....	14,892,773 ⁴

¹ Anthracite plus anthracite and coke.

² From *Mineral Resources*, 1898, p. 76.

³ Bituminous, chiefly coke.

⁴ Statistics for 1895 and 1898 from *Mineral Resources*, 1898, p. 76. Statistics for 1899 from the *Statistical Abstract*, p. 357. The remaining figures are from Swank's *Iron in All Ages*, p. 376.

The number of blast furnaces in the United States, according to the census of 1890, was 400 (490 in 1880), of which 73 were idle and 24 in course of construction; the number of rolling mills and steel works was 440 (397 in 1880), of which 45 were idle or unfinished; the number of

forges and bloomerries was 32 (118 in 1880) of which 12 were idle.²⁶

In the census of 1890 a comparison with preceding censuses was instituted which yielded the following results: between 1870 and 1890, the capital invested in the iron and steel industries (though the figures are scarcely comparable) increased from \$121,000,000 to \$414,000,000 (242 per cent.); the number of establishments diminished from 808 to 719 (eleven per cent.); the number of employees and the total amount of wages each more than doubled; and the aggregate quantity produced increased fivefold (from 3,600,000 to 18,200,000 tons), while on account of the fall in prices, the value of the production increased only from \$207,000,000 (about \$166,000,000 in gold) to \$478,000,000.

In short, it may be asserted that the production of pig iron has doubled almost every tenth year between 1840 and 1890, being thirty-one times as great in the latter as in the former year. For a score of years the United States held second rank among the countries producing pig iron, far behind the United Kingdom and but slightly in advance of Germany and France. By 1893 she had passed the United Kingdom and was contributing more than a quarter of the total production of the civilized world.²⁷

²⁶ See *Eleventh Census*, "Iron and Steel Manufactures," pp. 387 and 394. In 1880, 483 establishments with 681 completed furnaces had a daily capacity of 19,248 tons of pig iron. In 1890, there were 377 establishments with 559 completed furnaces and a daily capacity of 42,436 tons.

²⁷ The world's production of pig iron (omitting India, China and Malaysia) follows. The figures for 1870 are from M. Juraschek, those for 1893 from the *Statistique de l'Industrie Minérale*, and those for 1898 from *Mineral Resources*, "Metallic Products," p. 101. The production of the United States in 1898 was the largest ever reported by any country. The results are given in thousands of long tons, metric tons being assumed to be equivalent to the English ton of 2240 lbs.

	1870.	1893.	1898.
United States	1,693	7,238	11,774
Great Britain	6,059	7,089	8,631
Germany	1,391	4,400	7,233
France	1,178	2,003	2,534
Other countries	1,774	6,992	5,484
Total	12,095	27,722	35,656

To produce such a rapid development there must be a combination of four elements: the fuel, the mineral, a spirit of enterprise and a demand for the product. The first two have been supplied by nature, the American character has furnished the third, the presence of the fourth is due to the multiplication of railroads and the growth of consumption, productive and unproductive. The enterprise of the American people is indisputable. It manifests itself in the multitude of inventions which appear, in the boldness with which capital is invested and risks taken. The intensity of consumption is a result of the industrial activity, the size of the population, and the high wages which have accustomed the people to a generous style of living.

There is no reason to exaggerate the natural wealth of the United States, and take it for granted that nature has treated her more bountifully than any other country. The area of the United States is as large as three-fourths of Europe and nearly twenty-five times as large as the British Isles, but the latter still produce more coal and almost as much pig iron as the United States.²⁸

The growth of the steel manufacture is more remarkable still. The inventions of Bessemer, Siemens and Martin have caused a revolution in America as well as in Europe, but on a vaster scale. The United States did not possess a single Bessemer converter until 1864 nor a Siemens-Mar-

²⁸ PIG IRON.	1868. Long tons.	1878. Long tons.	1888. Long tons.	1898. Long tons.
Great Britain .....	.....	.....	.....	8,631,151
United States.....	.....	.....	.....	11,773,934
COAL.				
Great Britain	103,141,157	132,612,063	169,935,219	202,054,516
United States.....	28,258,000	51,655,000	132,731,613	196,405,953

Preliminary estimates furnished by the Geological Survey show that the coal output of the United States in 1899 was greater than that of Great Britain. The excess was probably not less than 20,000,000 tons. [Tr.]

tin furnace until 1868, but since 1868 her production of steel has risen from 13,627 to 8,932,857 long tons. The United States produced much less steel than England in 1872, but she produces very much more to-day.²⁹

For about a dozen years, during which its quantity increased tenfold, Bessemer steel almost completely dominated the market. In 1887 the production of Bessemer exceeded 3,000,000 tons, but since then the advance has not been so rapid.³⁰ Open-hearth steel, however, gained ground rapidly—advancing from 3,000 tons in 1872 to 2,230,292 in 1898. In the manufacture of railway-rails, the principal outlet for Bessemer steel, more than 1,000,000 tons of steel have been employed in each year since 1880. The use of iron for this purpose has steadily declined.³¹ Iron and steel are also used for many other purposes, particularly for the manufacture of structural materials, nails and screws; their uses grow as they become cheaper. In 1880, 5,056,600 kegs of nails were produced, all of iron. In 1890, there were manufactured 2,130,086 kegs of iron, 2,893,316 kegs of steel, and 2,893,316 kegs of wire, nails.

²⁹ Steel is superseding iron not only because it has a much higher resistance and greater strength, but because its manufacture in the Bessemer converter, requires much less hand labor than the manufacture of iron in the puddling furnace. In 1880, iron constituted about 67½ per cent. of the aggregate product of iron and steel; in 1890, it constituted only 40 per cent. The steel works furnished the rest.

In 1872 the world's production of steel was estimated at 1,000,000 tons, of which the United States produced 145,000, England 417,000, Germany 189,000, France 130,000, tons. In 1898, out of an aggregate production of 24,126,962 tons, the United States produced 8,932,857, Great Britain 4,665,986, Germany 5,779,570, France 1,473,100, tons.

³⁰ From 1896 to 1898, however, the production increased from 3,919,906 to 6,609,017 long tons. The number of Bessemer converters was 24 in 1880, 97 in 1890, 100 in April 1898. The number of open-hearth furnaces was 37 in 1880, 129 in 1890, 238 in April, 1898. [Tr.]

³¹ In 1880, 1,217,497 tons of rails were produced, of which about 64 per cent. were iron. In 1897, 1,647,892 tons were produced, of which less than 2/10 per cent. were iron.

In the two following tables are shown: (1) the production of iron by States in 1890; (2) the value of the products of the principal metallurgical industries in 1880 and 1890, together with the number of establishments at the two epochs, and the number of employees in 1890.

GENERAL RESULTS OF THE CENSUS OF 1890 FOR THE PRINCIPAL STATES PRODUCING IRON.

(Report on Manufacturing Industries, page 470 and following.)

STATES.	Pig iron (thousands of tons.)	Value of pig iron (thousands of dollars.)	Number of blast furnaces.	Total daily capacity (tons.)	Average capacity per furnace (tons.)	Total value of the pro- ducts of iron and steel works (mil- lions of dollars.)	Principal products (thousands of tons.)		
							Iron.	Bessemer steel.	Open-hearth steel.
Pennsylvania.....	4,867	75,212	202	18,511	91	188.7	1,705	2,556	457
Ohio	1,347	19,800	59	5,098	86	45.4	571	502	53
Alabama.....	915	10,315	47	4,162	88	2.2	50	....	1
Illinois.....	746	10,136	14	2,722	194	28.8	156	751	2
New York.....	344	5,182	26	1,689	65	10.3	109	118	4
Virginia.....	312	3,925	23	1,124	49	2.4	50	....	...
Tennessee.....	295	3,366	17	1,094	47	0.9	20	....	...
Michigan.....	227	3,982	19	924	48	1.8	33	4	...
Wisconsin.....	215	3,114	9	812	90	....	....	....	...
Massachusetts ¹						10.9	42	87	20
New Jersey ¹						8.7	89	30	29
West Virginia ¹						8.5	39	220	...
Totals.	9,906	145,612	473	39,411	83	331.8	3,225	4,385	590

¹ States which produce little pig iron, but are of importance in the iron and steel manufacture.

There has been considerable growth in every branch, particularly in that of architectural and ornamental iron-work. This is the only group, however, in which the number of establishments has increased; in all the rest the number has decreased on account of combination. Production on a large scale tends to predominate in all classes. The total number of employees in the five groups, approximated 500,000 in 1890.

STATEMENT OF THE GROWTH OF THE PRINCIPAL IRON INDUSTRIES.²²

	Value of products. (Millions of dollars.)		Number of establishments.		Number of employees in 1890. (Thousands.)
	1880.	1890.	1880.	1890.	
Iron and steel.....	296.0	430.0	1,005	645	152.5
Iron and steel, bolts, nuts, washers, and rivets	10.0	12.3	100	82	7.3
Blacksmithing and wheelwrighting	62.6	54.3	38,802	28,000	50.8
Iron and steel, forgings.....	6.4	9.0	91	90	4.4
Saws and screws	6.0	9.4	109	122	5.7
Foundry and machine shop products.....	214.3	412.7	4,958	6,475	247.7
Iron and steel, pipe, wrought	13.2	37.9	35	22	12.0
Wire and wirework.....	19.9	35.5	345	593	15.7
Hardware.....	22.6	26.7	492	350	19.6
Ironwork, architectural and ornamental	3.4	37.7	220	724	18.6
Gas stoves .....	....	2.1	....	24	1.0
Agricultural implements.....	68.6	81.0	1,943	910	42.5
Steam fittings and heating apparatus.....	5.1	23.1	95	217	11.7
Tools, not elsewhere specified	4.2	10.5	145	462	7.0

The American people pride themselves upon having a larger *per capita* consumption of iron and steel than any other nation in the world.²³ One of their most competent authorities on this subject enumerates the principal uses to which iron and steel are applied by the American people, and congratulates himself that in the production of many

²² The enumeration is far from complete. I have omitted the figures for 1870, as the grouping is evidently different.

This statement would be incomplete without some notice of the wonderful growth of the tin-plate industry in the United States. In 1890 there was no tin plate manufactured in the United States, and the imports amounted to 680,060,925 pounds, valued at \$20,-928,150. In 1898, the United States produced 681,674,028 pounds, and imported only 171,662,345 pounds, valued at \$3,809,148. In 1899 the importation sunk to 108,484,826 pounds, valued at \$2,-613,564 and the American production, as estimated by the American Tin Plate Company, rose to 791,371,484 pounds. [Tr.]

²³ 300 pounds *per capita* in 1890. England having a smaller population produced more *per capita*, but on account of her large exports, consumed only 275 pounds per inhabitant.

of these articles the United States leads the world. In his opinion, their superiority is manifested in the artistic finish as well as in the quantity of the goods they produce.³⁴

"We make more iron stoves for heating halls and dwellings and for the purposes of the kitchen than all the rest of the world," says the author. . . . "The heating of public and private buildings with hot-air heaters has long been more popular in our country than in any other country, but in late years steam and hot-water pipes are rapidly coming into use as rivals of hot-air flues. . . . We probably excel all nations in the use of iron and steel for ornamental purposes in connection with masonry, brick-work, and wood-work. . . . The manufacture of the printing presses of the country consumes immense quantities of iron and steel. No other country makes such free use of the printing press as this country. We are the leading agricultural country of the world, and hence are the largest consumers of agricultural implements; but we are also in advance of every other country in the use of agricultural machinery, the best of which we have invented.

"We lead all nations in the manufacture of cut nails, wire nails and spikes. . . . In the manufacture of machine and hand stools and general cutlery we are excelled by no other country, and in the use of machine tools we are in advance of every other country. No other country makes such free use of labor-saving inventions of all kinds as this country. . . .

"It is not only in stove-founding, in the graceful designs of bridges and elevated railways, and in the delicate combination of iron and steel with other materials in the construction and ornamentation of buildings that American ironworkers have displayed both taste and skill. The fine arts themselves are being enriched by our ironworking countrymen."³⁵

³⁴ Jas. M. Swank, *Iron In All Ages*, chap. lxii.

³⁵ *Ibid.*, pp. 526-530.

Mr. Swank is a panegyrist and, like most Americans when they come to speak of their own country, an enthusiastic one. As to quantities, he is quite correct, and on the artistic side it is also true that the Americans have made great efforts and achieved notable progress: they undoubtedly have at present a distinctly American architecture and style of ornamentation.

Agricultural and food products.—More industries are engaged in working up raw agricultural than raw mineral produce, since the former furnish practically the whole food supply and in addition satisfy other demands. In certain lines, such as the milling industry, a pronounced tendency toward combination is noticeable. In others, the bakeries for instance, the number of small establishments keeps pace with the population. I have described the most important of the gigantic meat-packing houses in my study on agriculture in the United States; the Armour Company with its force of 11,000 employees, killed and distributed in the year 1892-93, 1,750,000 hogs, 1,080,000 cattle, and 625,000 sheep.⁶⁶ The great packing houses are located in Chicago; Minneapolis is the center of two other great industries. The Pillsbury-Washburn Company, in the latter city, consumed 32,000 bushels of wheat a day in 1892, enough to provision the whole city of Paris.⁶⁷ Minneapolis is also the center of the lumber industry in the United States, whose 21,000 mills manufactured products worth \$403,667,575 in 1890.

The growth of the industries engaged in the manufacture of agricultural and food products is shown in the table on page 23 which is similar to the table showing the growth of the iron industries.

The outputs of some of these industries have not grown in value like those of the iron industries; the milling and sugar-refining industries, for instance, have remained almost stationary. It should be remembered, however, that

⁶⁶ *L'Agriculture aux États-Unis*, p. 348.

⁶⁷ *Ibid.*, p. 348.

since the prices of their products have greatly depreciated, constant values represent increased quantities. According to the statistics, however, the bakery products have doubled since 1880 and more than tripled perhaps, since 1870. The same can be said of tobacco, canned goods, liquors, and dressed lumber which, with the flour-milling industry, form the two most important industries of the group. The total number of persons employed in this group of industries was more than 800,000.

	Number of establishments.		Number of employees in 1890 (thousands).	Value of products (millions of dollars).	
	1880.	1890.		1880.	1890.
Flouring and grist mill products..	24,338	18,470	63.5	505.1	513.9
Bakeries	6,396	10,484	52.7	65.8	128.4
Food preparations.....	109	302	4.1	2.4	14.1
Cheese, butter and condensed milk.	3,932	4,712	14.2	25.7	62.6
Fruits, fish, oysters, and vegetables, canning and preserving...	411	1,012	59.6	17.5	40.0
Timber products, not manufactured at mill .....	....	1,606	46.1	....	34.2
Lumber, mill and planing mill products	28,199	24,681	373.0	306.6	587.3
Malt	216	202	3.6	18.2	23.4
Oils, vegetable and animal	362	399	9.9	32.6	54.8
Pickles, preserves, and sauces	109	316	4.2	2.4	9.7
Pulp, wood	50	82	2.8	2.2	4.6
Sugar and molasses, refining.....	49	393	7.5	155.4	123.1
Tobacco, chewing and smoking, cigars and cigarettes, snuff, stemming and rehandling.....	7,674	11,643	135.9	118.6	212.7
Vinegar and cider	306	694	3.3	3.4	6.6
Liquors, distilled, malt, and vinous	3,152	1,924	41.4	144.2	289.7

The building industry.—The building industry is necessarily active in a country in which the population and the number of farms and factories is rapidly increasing. Some idea of this activity may be obtained from the following statistics of Boston: In 1880, 159 brick and 273 wooden

houses were constructed with an aggregate value of about \$2,000,000. In 1892, 340 houses of brick and 2,003 of wood were constructed, with a total value of about \$15,000,000.³⁸ Boston is one of the older cities in which the rate of increase has been relatively low. The census of 1880 had recorded 1,525 quarries of building stones, whose aggregate product was valued at \$18,000,000. Eighteen years later the total value of the building stones quarried was estimated by the Geological Survey at more than \$38,000,000. The production of bricks and tiles alone, according to the census of 1890, represented a value of nearly \$68,000,000.

Textile industries.—The spinning and weaving of wool were purely domestic industries during the colonial period and they remained in practically the same condition for more than thirty years after the Revolutionary War.³⁹ The census of 1790 mentions only three textile factories,⁴⁰ and it was not until 1794 that the first factory with the new machinery was established at Byfield, Massachusetts. The textiles consumed in the United States were at that time imported from England,⁴¹ while the latter prohibited the exportation of the machines by which they were manufactured.

³⁸ From the Massachusetts report on *The Subject of the Unemployed*, Boston, 1895, p. xxvii.

³⁹ Sheep were introduced into Virginia in 1607; into New Amsterdam in 1625; and in 1633, into Massachusetts. Accounts show that the colonies possessed about 100,000 sheep in 1661. The colonists who founded Rowley established a fulling-mill in 1643 which was in operation in 1809, and in the middle of the seventeenth century the governor of Massachusetts mentioned that Rowley held first rank, although the manufacture of wool was general. (*The Industrial Evolution*, by Carroll D. Wright, p. 46.) In Virginia where the first fulling-mill dates from 1692, some of the governors encouraged the industry, while others opposed it. In Philadelphia the first fulling-mill dates from 1774.

⁴⁰ The first factory was founded in Beverly, Mass., in 1787. One establishment in Hartford, Conn., produced 5,000 yards of cloth in 1789.

⁴¹ These imports were on the increase: from 1.5 million pounds sterling in 1790 to 2.8 million in 1799.

The two wars with England interrupted the importation of English textiles and forced the Americans to manufacture for themselves,⁴² but upon the conclusion of the peace of Ghent, the ports were opened, prices fell, and many American manufacturers were ruined. Their complaints led Congress to insert in the tariff of 1816 a duty of 25 per cent. upon woollens and cotton goods. In the tariff of 1824 this was increased to 33 per cent., and finally, upon further protestations⁴³ the rate was again increased in the tariffs of 1828 and 1832.⁴⁴

The compromise tariff of March, 1833, lowered the duty on woollens to 29 per cent., and the manufacturers saw with regret and alarm the rise of the importation to \$24,500,000 in 1836. The number of manufacturers, however, increased. In 1837, 1,549 establishments were reported, of which 519 were in Massachusetts, 351 in New York, 184 in Connecticut, 123 in Pennsylvania, 100 in Vermont. The "Middlesex Company" alone, founded in Lowell in 1830, controlled 27 mills. A large number of these were closed by the painful crisis of 1837, so that the census of 1840 reported only 1,420 factories. But the census does not furnish an exact measure of the woolen industry, nor of the sentiment which inspired manufacturers with the fear of foreign competition. In the senatorial investigation of 1883 one of the witnesses, a manufacturer and an ardent protectionist, said: "This whole period was very severe. Prices fell, satinettes which sold for ninety cents in 1839 brought only forty cents in 1842, the Massachusetts producers lost money and at the end of 1842 most of them were

⁴² The impossibility of importing machinery stimulated the inventive genius of the Americans to such an extent that 237 patents for textile machinery were taken out in 1812. About this time power-looms began to be introduced.

⁴³ The increase of $8\frac{1}{2}$ per cent. did not satisfy the manufacturers because it was accompanied by an increase of 15 per cent. on the duty on wool, and one-third of the wool consumed was imported.

⁴⁴ By removing the duty from common wool the law of 1832 stimulated the manufacture of coarse woollens.

on the verge of bankruptcy. Wages were very low." The tariff of 1842 was a victory for the protectionists, and a duty of forty per cent. was placed upon woolens.

The tariff of 1846 reduced the duty to 36 per cent. *ad valorem*, and caused great distress among the manufacturers. In 1857 the rate was again reduced—to 24 per cent.—but as the duty on wool was also lowered, the industry prospered. During the Civil War the enormous consumption of cloth for uniforms, the scarcity of cotton and the general inflation of prices stimulated both wool-growing⁴⁴ and the manufacture of woolens, in which the profits came rather from the quantity than the quality of the output. The census statisticians valued the woolen products at \$73,000,000 in 1860 and at \$217,000,000 (\$173,000,000 in gold)⁴⁵ in 1870, an increase of about 115 per cent.; they estimated the number of persons employed at 59,522 in 1860 and at 119,859 in 1870; during the decade the consumption of wool more than doubled (from 98,000,000 to 220,000,000 pounds) and nominal wages increased more than threefold (from \$13,000,000 to \$40,000,000). In 1880, which was regarded as a very prosperous year, the census returns showed a production of \$267,000,000 worth of woolens, an increase of 54 per cent. over the production of 1870. The census of 1890 records a production of 346 millions, an increase of 26 per cent. over 1880. The tendency toward consolidation is shown by the fact that the number of establishments has slightly diminished since 1870, while the capital invested has doubled.

The native wool crop is almost wholly consumed in the woolen manufacture, but wool-growing is developing more

⁴⁴ In 1860 the wool crop of the United States amounted to 60 million pounds, and in 1870, to 162 million. In 1899 it had increased to 272 million.

⁴⁵ The official statistics differ among themselves and there is a great discrepancy between the estimates of the wool clip furnished by the Department of Agriculture and those furnished by the "National Association of Wool Manufacturers."

slowly than other branches of agriculture on account of the almost constant fall in the price of wool.⁴⁷ As estimated by the Department of Agriculture, the production was 160,000,000 pounds in 1867 and 300,000,000 in 1884, a point reached by gradual stages and since maintained with but little variation one way or the other.⁴⁸ The imports, however, which were only 79,000,000 pounds in 1884, have grown rapidly in the last few years, reaching the enormous figure of 350,000,000 pounds in 1897. This brought the total consumption of the United States in 1897 up to 600,000,000 pounds, the highest point that has yet been attained.⁴⁹ The progress that has been made may be gathered from the table on page 28.

The home production of woollens is not large enough to supply the demand. The United States exports a little, but imports a great deal. From 1887 to 1892 the value of the woollen imports varied from 56.5 to 14.8 millions of dol-

⁴⁷ The price of fine wool per pound in Eastern markets was:

60 cents.....in 1824	33 cents.....in 1890
50 " " 1860	18 " " 1895
48 " " 1870	28½ " " 1898
46 " " 1880	

⁴⁸ 309,748,000 lbs. in 1895, but only 218,410,368 in 1898, according to the Department of Agriculture. [Tr.]

⁴⁹ M. Grandgeorge, in the report of the *Commission des Valeurs de Douane* for 1894, says that the consumption of wool did not vary greatly in the United States from 1887 to 1894, and that ranked according to the consumption of wool, the United States must be placed after France, England and Germany.

[Owing chiefly to changes in the tariff, the production and consumption of wool in the United States are very irregular. In the last three years there has been a substantial increase in the production of wool and the number of sheep in the United States, while the imports and total consumption have greatly diminished. Taking a longer period, however, the fifteen years 1884-1898, it would seem that the production of wool and number of sheep are declining, while the consumption is increasing.

	Average number of sheep.	Average production.	Average consumption.
1884-1888.....	47,502,654	292,800,000 lbs.	389,200,000
1888-1893.....	44,515,601	284,600,000	417,600,000
1894-1898.....	40,022,493	281,000,000	468,900,000]

lars, about one-tenth of the total consumption. This proportion shows a tendency to decrease.⁸⁰

STATISTICS OF WOOL (FROM THE *Wool Book*, 1895).

Years.	Number of establishments.	Capital (millions of dollars).	Number of spindles.	Number of looms.	Consumption of wool (millions of pounds).	Value of materials employed (millions of dollars).	Number of employees.	Wages (millions of dollars).	Value of products (millions of dollars).	Consumption per capita (dollars).
1820	....	....	.....	.....	...	....	.....	....	4.4	0.46
1830	....	....	.....	.....	....	....	.....	....	14.5	1.13
1840	1,420	....	.....	.....	45	....	.....	....	20.6	1.21
1850	1,760	32.5	.....	.....	71	29.2	47,763	....	49.6	2.14
1860	1,673	42.8	.....	.....	85	49.6	59,522	13.3	80.7	2.57
1870	3,456	132.4	2,194,498	6,175	200	134.1	119,359	40.3	217.6	5.65
1880	2,689	159.1	2,255,996	59,261	331	164.3	161,557	47.3	267.2	5.33
1890	2,489 ¹	296.5	3,182,500 ²	69,834 ³	385	203.0	219,132	76.0	337.7	6.30

¹ In addition there were 267 idle establishments.

² Of the 3,182,500 spindles in 1890, 2,329,099 were woolen spindles, 657,324 worsted spindles, and 176,077 cotton spindles.

³ 3,076 hand looms remained in 1890. The increase is almost entirely in the broad looms. [In 1898 there were 79,059 woolen looms in the United States, according to *Statistics of Manufactures*, Massachusetts, 1898, p. 260].

Since the Civil War the progress of the woolen industry has been greater in the United States than in any other country. They now supply nine-tenths of the quantity they consume, and rank immediately beneath England and

⁸⁰ In 1860, 72 per cent of the total consumption (\$112,000,000) was of American manufacture. In 1890, the United States furnished 89 per cent. of the total consumption (\$380,000,000). For the history of the woolen industry see *A Century of American Wool Manufacture, 1790-1890*, by S. N. D. North. Mr. North has made cautious use of the census figures prior to 1870, as he believes them to be very incomplete. [The woolen imports fluctuate greatly from year to year, the tariff being the chief disturbing agent. In 1890, for instance, the imports amounted to \$56,582,432. From this point they rapidly declined to \$19,439,372 in 1894. The tide then turned and in 1896, they had reached the 50 million mark again. The preceding process then began to repeat itself; only \$13,832,621 worth were imported in 1899.]

by the side of France, among the states manufacturing woolen goods.⁶¹

The cotton manufacture has the advantage over the woolen industry of securing all its raw material in the United States,⁶² and the production of this material has increased without interruption, except during the Civil War.

The production of cotton in the United States, estimated at 400,000 bales in 1821, had risen to 5,198,000 in 1860. Paralyzed by the war, the production did not regain this height until 1878. Since that year the record of 1860 has been far surpassed, the production of 1898—the maximum to that date—amounting to 11,189,205 bales. Since the end of the last century the United States have consumed a part of their crop, but at that time the Americans usually made their clothes of skins, or from flax and hemp; cotton

⁶¹ Authorities differ somewhat in their estimates of the consumption of wool and consequently, in the rank they assign to the several nations. Mr. North estimates the consumption of wool in 1890 at 372 million pounds in the United States, 470 in England, and 419 in France. According to statistics of the Treasury Department published in 1894 (*Wool and Manufactures of Wool*, pp. 14 and 21), the United States consumed in the year mentioned 425 millions of pounds, England 422 millions, and France 417 millions (the production of 1887 being added to the net importation of 1891). According to M. Juraschek (*Uebersichten der Weltwirthschaft*), the production in 1888-90 plus the excess of imports over exports in 1891 gives 192 millions of kilograms for England, 220 millions for France, 182 millions for the United States. [Mr. S. N. D. North furnishes the following estimates for 1899: World's production 2,681,819,545 pounds, of which Australasia furnished 520,000,000, the Argentine Republic 370,000,000, European Russia 361,100,000, the United States 272,191,330, Great Britain and Ireland 138,392,215, France 103,610,000, etc.]

⁶² However, it was from the Barbadoes that Massachusetts, in 1633, received its first supply of cotton. For a long while cotton was cultivated as an ornamental plant, and it was on the eastern shore of Maryland and in the lower counties of Delaware that it was first raised for manufacturing purposes. It was not until the second half of the eighteenth century that the South took up the cultivation of cotton. The first exportation to England, sent from Charleston and consisting of 300 pounds, was made in 1787. It appeared so extraordinary to the customs officials of Liverpool that they at first refused to admit it.

did not come into general use until much later. The first spinning machine was exhibited at Philadelphia in 1775.⁸³ The first mechanical filature was installed at Beverly, Mass., in 1787, with the assistance of the state legislature; but it was not a success. The factory at Pawtucket, R. I., which met with more success, was established in 1790.⁸⁴ The attempts to weave by machinery date from 1815.⁸⁵

Obliged to provide for themselves during the two wars with England, the Americans made efforts of which they were very proud. "During this time," wrote Jefferson, "we have manufactured within our families the most necessary articles of cloathing. Those of cotton will bear some comparison with the same kinds of manufacture in Europe. . . ." ⁸⁶ The cotton industry was greatly stimulated by Whitney's invention of the cotton gin in 1794.

The progress of the cotton manufacture has been considerable, and almost uninterrupted. The factories were formerly built in the valleys, on cramped and narrow sites, and six or seven stories high. With the gradual substitution of steam as the principal or only motive power, a wider choice has been permitted, and spacious, airy buildings are now erected on higher ground. The perfection of the machinery has almost done away with dust, and the use of anthracite has suppressed the smoke nuisance. Numerical proof of the progress of this industry will be found in the following table, the figures of which are unfortunately not equally authentic and trustworthy.

⁸³ The spinning jenny was introduced in Worcester, Mass., in 1780.

⁸⁴ The founder was an Englishman, Samuel Slater, called by President Jackson "the father of American industries." In 1809 there were already 87 filatures of cotton with 80,000 spindles.

⁸⁵ In 1811, the American Lowell went to England to study the cotton industry. On his return, in 1814, he erected a factory in Waltham, Mass., in which both weaving and spinning were carried on by machinery. The factory contained 1,700 spindles and was the first establishment in the world where the two operations were carried on under the same roof. Shortly afterwards other factories were built in Lowell, Lawrence, Fall River, etc.

⁸⁶ *Notes on the State of Virginia* (1781), query xix.

Years.	Number of establishments (weaving and spinning).	Number of spindles.	Number of looms (power).	Capital (millions of dollars).	Number of operatives.	Wages of employees (millions of dollars). ²	Cotton consumed (millions of dollars).	Production (millions of dollars).
1831	801	1,246,703	33,433	40.6	62,208	(10.0)	77.4	(40.0)
1840	1,240	(2,284,631)	.....	51.1	(72,119)	....	(135.0)	(44.3)
1850	1,094	(3,000,000)	.....	74.5	92,286	....	288.5	61.8
1860	1,091	5,235,727	126,313	98.5	122,028	23.9	422.7	115.6
1870	956	7,132,415	157,310	140.7	135,369	39.0	398.3	177.4
1880 ¹	1,005	10,653,435 ⁴	225,759	208.3	174,659	42.0	750.3	192.0
1890	905	14,188,103 ⁴	324,866	354.0	221,585	69.4	1092.43	267.9
1899		17,937,735 ⁵	453,281 ⁶					

¹ These figures are from the *Abstract of the Eleventh Census*, p. 146. They do not appear to harmonize exactly with those in the "Report on Manufactures," *Tenth Census*, "Cotton Manufactures," p. 15, or, "Factory System," p. 9.

² This column comprehends only "operatives" as distinguished from "employees."

³ These figures are taken from the *World Almanac*. M. Juraschek gives 1,117.9 for 1890.

⁴ Includes only spindles in operation: the total number of spindles in 1890 was 14,550,323. In 1890 there were in operation 5,363,486 spinning mules and 8,821,627 spinning frames.

⁵ Estimate of Latham, Alexander and Company. [Tr.]

⁶ For 1898; from the Massachusetts report: *Statistics of Manufactures*, 1898, p. 259. [Tr.]

Since the beginning of the industry Massachusetts has held front rank, producing about \$100,000,000 of the total production of \$268,000,000 in 1890. After Massachusetts came Rhode Island with \$27,000,000, New Hampshire \$22,000,000, Pennsylvania \$18,000,000, Connecticut \$15,000,000, Maine \$15,000,000. Three-fourths of the factories were grouped in New England in 1890, which, taken as a unit, manufactured products worth \$143,000,000 in 1880 and \$181,000,000 in 1890.

New England, however, did not make the greatest progress during that decade. The production of the South Atlantic States rose from \$16,000,000 to \$41,000,000, Georgia taking rank immediately beneath Maine, with a production of \$12,000,000. From 1870 to 1899 the number of spindles in the six New England States increased from 5,486,000 to 13,950,000; the increase in the South during the same period, was from 292,000 to 3,988,000. In other

words, the production in New England has increased less than threefold, while in the South it has increased nearly fourteenfold.

Since about 1880, in fact, since the close of the war, northern capital has been turning towards the states where the raw material is grown. Rich northern manufacturers have not hesitated to establish competing factories in the South, preferring to reap for themselves the advantages of cheap labor and proximity of the supply, rather than leave them to others. The trait is characteristically American.

In the sixty years, 1835-1894, the consumption of cotton increased tenfold in the United States, which at the beginning of this period retained only sixteen per cent. of the home crop.⁵⁷ At present, although the production of raw cotton has increased sixfold, thirty-four per cent. is manufactured at home; the manufacturing industry has grown more rapidly than the agricultural. The tendency towards consolidation has been apparent for many years. From 1,240 in the year 1840, the number of establishments fell to 905 in 1890, while the number of spindles increased sevenfold and the consumption of cotton, tenfold. The explanation is found in the increased speed and power of the machinery used. Hand labor is fast disappearing; the census of 1890 recorded 14,000,000 mechanical spindles and 324,800 power-looms. In 1880 the hand-industry lingered in a few mountainous districts of the South into which the railroad had not yet penetrated, and a few women with their looms and spinning wheels were brought to the Cotton Exposition at Atlanta, in 1881. It was calculated that with their methods, the five operatives—two carders, two spinners and one weaver—ought to produce about eight yards of common calico a day, while five operatives with modern machinery would produce eight hundred yards, or even more, at present.⁵⁸

To appreciate the rapidity with which the cotton manu-

⁵⁷ Before the war (1851-1860) the United States used about 23 per cent. of the home crop.

⁵⁸ *The Distribution of Products*, by E. S. Atkinson, p. 68.

facture has grown in the United States, it is necessary to employ a table of comparative statistics, which, though very imperfect, is sufficient to demonstrate that this growth has been more rapid than that of any European state, Russia excepted. The statistics show that in the United States the number of spindles has increased tenfold since 1834, while in no other state has the number more than tripled;⁵⁹ that the consumption of cotton in the United States has increased in the proportion of one to thirteen from 1830 to 1887-1888, while it has increased barely sixfold in England;⁶⁰

⁵⁹ THE COTTON MANUFACTURE IN EUROPE.

Countries.	From Scherzer. 1834.	From Ch. Grad. 1873.	From Juraschek. 1890.	
	Spindles.	Spindles.	Spindles.	Looms.
Great Britain	15,000,000	35,500,000	44,504,000	615,714
United States	1,400,000	10,000,000	14,088,000	250,000
France	2,500,000	5,700,000	4,914,000	72,784
German Empire.....	500,000	4,700,000	5,500,000	245,000
Alsace .....	.....	1,700,000	.....	.....
Russia .....	.....	2,000,000	3,600,000	90,000
Austria-Hungary	800,000	1,558,000	2,298,000	49,650
India .....	.....	.....	3,273,000	24,650
Switzerland.....	580,000	1,850,000	1,798,000	23,731
Spain .....	.....	1,400,000	1,885,000	7,559
Italy .....	.....	500,000	1,800,000	30,000
Belgium.....	200,000	.....	800,000	.....
Totals	20,980,000	62,700,000	87,756,000 ¹	1,414,000 ¹

¹ These totals include the spindles and looms of a few countries not enumerated in the table.

[Latham, Alexander & Co., in their publication, *Cotton Movement and Fluctuations*, New York, 1899, estimate the number of spindles in the world in 1899 at 104,197,735, of which 45,900,000 are credited to Great Britain, 32,850,000 to Continental Europe, 17,937,735 to the United States, 4,400,000 to the East Indies, etc.]

⁶⁰ THE CONSUMPTION OF COTTON (FROM MULHALL).

Countries.	1880.	1850.	1869.	1887-88.
	Kilograms.	Kilograms.	Kilograms.	Kilograms.
Great Britain ...	113,200,000	266,300,000	498,700,000	693,100,000
France	31,000,000	63,400,000	99,700,000	140,400,000
German Empire ...	7,000,000	20,800,000	66,500,000	171,200,000
Russia.....	2,100,000	21,700,000	43,900,000	167,100,000
Austria-Hungary.	9,100,000	26,300,000	43,400,000	106,400,000
United States ...	35,400,000	131,000,000	181,200,000	457,500,000
India .....	.....	.....	15,800,000	108,200,000
Total ¹	212,900,000	582,500,000	1,038,200,000	2,096,400,000

¹ This total includes the figures of a few countries not specified in the table.

[The world's consumption of cotton in the year 1898-99, according to Latham, Alexander & Co., was 11,977,000 bales, of which Great Britain consumed 3,588,000, Continental Europe 4,836,000, the United States 3,553,000.]

that the United States, which consumed about the same amount of cotton as France in 1830, consumes more than three times as much to-day. England has always been first in the manufacture of cotton goods, but the United States is constantly drawing nearer. With the exception of England, where a large part of the production is exported, the United States has the highest production *per capita* of any country in the world.⁶¹

As a matter of fact the United States also does a little exporting,⁶² and in the future hopes to do more. The American manufacturers aspire to contend with England for the markets of Asia, Africa and South America, but at the same time they loudly insist that it would be impossible for them to hold their own if they were not protected by a heavy tariff.

On the other hand, they already control the home market, and the seventy million people of America—where high wages permit the working classes to spend more than in Continental Europe—constitute a trade that is very extensive and constantly increasing. The tastes to be satisfied are far more uniform than in France, as the different classes dress very much alike. In consequence the manufacturer is not forced to introduce so much variety into his production. He turns out his goods in vast quantities—"for the million"—with the assurance of finding a considerable outlet for an article of good appearance and fair quality.

Flax and hemp are comparatively unimportant in the United States; the silk manufacture holds third place among the textile industries. Although from the earliest

⁶¹ According to Juraschek the production of cotton goods *per capita* in 1886-1890 was as follows:

Great Britain	19.0 kilogr.
United States	8.8 "
German Empire	4.2 "
France	3.0 "
Austria-Hungary	2.2 "
Russia	1.5 "

⁶² \$23,566,914 in 1899. [Tr.]

colonial times it was thought that the climate of the South would prove favorable to the culture of the silk worm,⁶³ the development of the industry came later than that of the other textiles. During the eighteenth century the industry was encouraged and a small amount of silk was exported to England from Carolina and Georgia.⁶⁴ Sewing silk was the principal product, its manufacture being purely a household industry. A little weaving was also done, and it is related that in 1747 a governor of Connecticut wore the first silken hose and doublet manufactured in America.⁶⁵ After the Revolution the legislature of Connecticut encouraged the industry by bounties, and at Mansfield it made considerable headway. In 1830 this locality was still the principal center of the silk industry; there were 150 filatures, and three-fourths of the population were engaged in the industry, raising the worms, manufacturing the raw silk or thread, and weaving ribbons, buttons and handkerchiefs. In 1810 a small factory was erected, advantage being taken of a convenient waterfall.

In 1828 a manual on silk culture was published by the direction of Congress, and ten years later Massachusetts published another. For several years the Americans were very enthusiastic about a species of the mulberry called the *multicaulis*, from which magnificent results were expected. But these hopes were disappointed. Up to the present time the silk culture has not succeeded in the United States, although the silk manufacture has made remarkable progress since 1850.

⁶³ An act passed in Virginia in 1656 (repealed shortly after) imposed a fine upon any planter who did not have at least six mulberry trees.

⁶⁴ In the first half of the eighteenth century Carolina exported each year quantities varying from five to a hundred pounds. In the second half of the century the exports from Georgia became more considerable, reaching 1,084 pounds in 1768.

⁶⁵ The President of Yale College, who cultivated the worms himself, wrote a book in 1758 upon the culture of the mulberry tree and the silk worm.

Foreign silks have always been imported, and the imports increased rapidly between 1840 to 1872. Since the latter year they have remained almost stationary.⁶⁶ The way is barred by the home industry which, with the assistance of almost prohibitive duties, is steadily growing.⁶⁷ The importation of raw silk, however, is steadily increasing. In 1850, 120,000 pounds were imported; in 1870, 583,000 pounds; between 1872 and 1892 the imports increased more than twelvefold, and in the year ending June 30, 1898, they exceeded 10,000,000 pounds.⁶⁸

The impression created by the figures just cited is confirmed by the more circumstantial statistics of the census, although some of the figures are but moderately consistent.

⁶⁶ Imports of silk manufactures: from the census of 1880 and the *Statistical Abstract*.

	Millions of dollars.		Millions of dollars.
1830	5.7	1872	36.4
1839	21.6	1880	32.2
1840	9.5	1890	38.6
1850	17.6	1895	31.2
1860	32.9	1899	25.1
1870	23.8		

⁶⁷ Of the amount consumed at home the United States supplied 13 per cent. in 1860, 23 per cent. in 1870, 38 per cent. in 1880, and 55 per cent. in 1890.

⁶⁸ IMPORTATION OF RAW SILK, 1845-1898.

Years.	Raw silk (millions of pounds).	Total value of raw silk, cocoons, eggs and waste (millions of dollars).
1845	62	0.2
1850	120	0.4
1855	257	0.7
1860	297	1.3
1865	290	1.2
1870	583	3.0
1875	1,101	4.5
1880	2,562	12.0
1885	3,424	12.9
1890	5,943	24.3
1894	4,956	16.2
1895	7,422	22.6
1896	7,974	26.7
1897	6,513	18.9
1898	10,315	32.1
1899	9,691	32.4

A comparison of the estimates of the total product—\$1,800,000 in 1850, \$12,200,000 in 1870, \$87,200,000 in 1890—reveals enough for our purposes.⁶⁹

The machinery used in the manufacture of silks has been completely revolutionized. The first filature, built at Mansfield, Conn., in 1810, was a small wooden structure about 12 feet square; and the first factory in which the general silk manufacture was carried on, built at Paterson, New Jersey, in 1840, was also located in a small house. The Morrill tariff of 1861 imposed a duty of 60 per cent. upon silks. Together with the war and the paper currency, this duty checked importation and stimulated the national production. Since 1870 the total number of spindles has increased tenfold,⁷⁰ the increase in the number of looms has been still greater, there are more than seven times as many employees, and the growth in the value of the aggregate production has been in about the same proportion. As the average price of silks has greatly diminished, it follows that the quantity produced has largely increased. The manufacturers have made great efforts to increase the speed of the machinery and have succeeded in obtaining spindles that will make from 12,000 to 15,000 turns per minute.

⁶⁹ SILK MANUFACTURES (CENSUS ESTIMATES).

	1850.	1860.	1870.	1880.	1890.
Establishments..	67	139	86	382	472
Capital (dollars)..	678,000	2,936,000	6,321,000	19,125,000	51,007,000
Employees.....	1,723	5,435	6,649	31,337	50,913
Spindles.....	.....	.....	12,040	508,137	1,254,798
Looms.....	.....	.....	1,439	8,474	28,525 ¹
Materials.....	1,093,860	3,901,777	7,817,559	22,467,701	51,004,425
Products(dollars)	1,809,474	6,607,662	12,210,080	41,033,045	87,298,454

¹ In 1898 there were 38,199 silk looms in the United States, of which 20,964 were operated in New Jersey. *Statistics of Manufactures*, Massachusetts, 1898, p. 262. [Tr.].

⁷⁰ The number of hand looms on broad goods has greatly diminished (1629 in 1880 and 413 in 1890), while that of hand looms on narrow goods has remained about the same (1524 and 1334); the total number of power looms seems to have increased fivefold since 1880. No conclusion about capital can be drawn because the classification has been changed since 1880.

Many find this speed excessive, however, and prefer machines with a speed of from 7,500 to 10,000 revolutions per minute. Such machines require the best raw material, and because of its quality Japanese silk is being imported in constantly increasing quantities. As a rule the quality of the fabric is mediocre. The principal manufactures are: ribbons, which the Americans consume in enormous quantities; dress and cloak trimmings; plain and figured dress goods;⁷¹ foulards, sewing silk, and handkerchiefs. The last two were for a long while the most important American silk manufactures, but in recent years they have fallen off because of Japanese competition.

In the census of 1890 attention was called to the quantity of silk manufactured, to the transformation of machinery, and in particular, to the progress that has been made in the variety and cheapness, and in the beauty of the colors and designs, of American silk goods. The American manufacturers have made extraordinary efforts since the Civil War to obtain control—and the sole control—of the home market. Congress has assisted them with exorbitant tariffs, and they themselves have contributed to the result by their efforts toward self-improvement.

In comparing the value of the imports, with the value of the home production, of silk goods, it is found that the latter constituted 13 per cent. of the total consumption in 1860, 23 per cent. in 1870, 38 per cent. in 1880, and 55 per cent. in 1890. The American producers are evidently making rapid headway in the home market, and the home market is expanding continually, because habits of luxury are spreading and the population grows apace. It is not so much the luxury of the very rich—who will have imported silks at any price—that supports the American industry; it is the luxury of the masses. As I noted above, the democratic spirit prompts the workingman's wife and

⁷¹ The production of dress goods increased from \$4,100,000 in 1880, to \$15,100,000 in 1890.

daughter—particularly the daughter—to wear ribbons and silks, and to dress like the wife of his employer. With such trade a very low price is the condition of success. This is why France, the first country of the world in the manufacture of silks, has fought with so little success in the American market⁷² and sees her foothold gradually slipping away, while Japan makes greater and greater inroads and begins to disturb the peace of the New Jersey manufacturers.

Before the Civil War the United States did not count, so to speak, among the silk manufacturing countries. In twenty-five years they have risen to the second rank, immediately below France. According to the last census the production of silk goods doubled from 1881 to 1890 (from \$41,000,000 to \$87,000,000).⁷³

Miscellaneous industries.—It would be wearisome to continue this enumeration of industries one by one. The accompanying table, which includes only those industries whose production exceeded \$50,000,000 in 1890, and which have not been previously described, will suffice to confirm the impression that there has been a rapid advance in almost every branch of American industry in the decade 1880-1890. In most industries the value of the production has at least doubled; in some—painting and paper-hanging, plumbing, car manufacturing, coffee-roasting—it has tripled; and if we accept the statistics of masonry as strictly comparable in the two epochs—which cannot be done—the products of this industry have increased tenfold in

⁷² From 1847 to 1856, according to the French customs returns, the exports of silk manufactures from France to the United States had an average annual value of 83.7 millions of francs; from 1891 to 1894 the average value was about 60 millions. Nevertheless, the total importation of silk goods into the United States has increased.

⁷³ The latter amount, equivalent to about 440 million francs, is somewhat reduced by M. Natalis Rondot. Estimating the world's production at 1863 millions of francs, he assigns 610 millions to France, 400 millions to the United States, 305 to Germany, 132 to Switzerland, 90 to England, and 81 to eastern Asia (China, Japan, India, etc.).

value.⁷⁴ The phenomenon of consolidation scarcely shows itself in this group, because it is composed chiefly of hand trades, such as house painting, printing, masonry and carpentry. With a single exception the number of employees has increased in every branch.

Industries.	Number of establishments.		Employees (thousands.)		Value of products (millions of dollars.)	
	1880.	1890.	1880.	1890.	1880.	1890.
Boots and shoes, factory products	1,959	2,082	111	139	166	220
Brick and tile	5,631	5,825	66	109	32	67
Carpentering	9,184	16,917	54	94	140	281
Carriages and wagons	3,841	8,614	45	73	64	114
Cars, railroad and street ..	130	166	14	35	27	76
Chemicals	592	563	9	16	38	59
Clothing, men's	6,166	18,658	160	243	209	378
Clothing, women's, factory product	562	1,224	25	42	32	68
Coffee and spice, roasting and grinding	300	358	2	5	22	75
Confectionery	1,450	2,921	9	27	25	55
Furniture, cabinet making and upholstering	5,624	5,633	52	78	75	118
Gas, illuminating and heating .....	...	742	...	14	...	56
Hosiery and knit goods ...	359	796	28	61	29	67
Leather, tanned and curried	5,424	1,596	34	34	184	138
Marble and stone work....	2,846	3,373	21	35	31	62
Masonry, brick and stone..	1,591	7,715	16	119	20	204
Painting and paper hanging	3,968	10,043	17	56	22	74
Paper	692	567	24	29	55	74
Petroleum, refining .....	...	94	...	12	...	85
Plumbing and gas fitting..	2,161	5,327	9	42	18	80
Printing and publishing ..	3,467	16,566	58	165	90	275
Saddlery and harness	7,999	7,931	21	30	38	52
Tinsmithing, coppersmithing and sheet-iron working	7,693	7,002	27	38	50	66

Recapitulation.—The official statistics of manufactures furnished by the United States are more complete than those of any other country. European statisticians, except in a few industries under special supervision, do not venture to ask for or to publish statistics of employees, wages,

⁷⁴ The apparent exception found in the leather manufacture is explained by the fact that in 1880 an establishment engaged in both tanning and currying made a report for each branch and was counted twice, while in 1890 there was but one report for each establishment.

cost of materials, value of products, etc., and where they have attempted to obtain such data, they have not always had reason to congratulate themselves upon the result. The American statisticians are bold enough to make the attempt, and the habits of the people, the general social organization, and in particular, the administration of the census upon which the government spends large sums, seem to justify it. There is no doubt that many of the figures are mere approximations distorted by personal interest or vitiated by the slender basis of fact upon which they rest. Nevertheless they are very instructive, taken as a whole, and the conclusions they suggest relative to the subject which concerns us, are entirely harmonious. Examined as a whole or in detail, they establish the fact of a very rapid development in American industry since the Civil War. In every case, or in almost every case, there has been an increase in capital and machinery, in the number of laborers and the value of the products; while in many instances the number of establishments has decreased. The industrial unit is gradually enlarging. An interesting comparison of the population and wealth at each census since 1850, drawn up by the Department of Labor, is summarized in the following table:

Years.	Population.		Property real and personal.		Value of the products of the agricultural, fishing, mining and manufacturing industries.		Production per capita, dollars.
	Millions of inhabitants.	Per cent. of increase from one census to another.	Billions of dollars.	Increase per cent.	Billions of dollars.	Increase per cent.	
1850	23.1	.....	7.1	.....	1.0 ¹	.....	44
1860	31.4	35.58	16.1	126.46	1.9 ¹	84.5	60
1870	38.5	22.63	30.0	86.07	6.8 ²	260.4	177
1880	50.1	30.08	43.6	45.14	7.9 ³	16.5	159
1890	62.6	24.86	65.0	49.02	12.1 ⁴	52.3	194

¹ Agricultural products are not included in this total.

² Betterments and additions to industrial capital are included.

³ The statistician has deducted certain values which were duplicated in the original publication.

⁴ This total does not include the products of those industries not enumerated in the preceding censuses.

The report on the manufacturing industries of the United States, made by Trench Coxe in connection with the census of 1810, assigned to the aggregate production of manufactures in that year a value of \$127,000,000. By the addition of certain doubtful articles better classified under the head of agricultural products, Mr. Coxe raised this estimate to \$198,000,000.⁷⁵ The census of 1860, taken immediately before the war, returned the aggregate value of all kinds of manufactures at \$1,885,000,000; according to the census of 1890, this total had risen to \$9,372,000,000. I have already stated why these figures are not homogeneous enough to yield a numerical ratio, but they may be accepted as a proof of progress. If the production has not quintupled in the last thirty years, it has certainly undergone a great increase in quantity. At the same time it has expanded territorially, spreading from the Atlantic States, which constituted the only manufacturing region during the first thirty years of the nineteenth century, to the middle and upper basins of the Mississippi, and along the shore of the Pacific. According to Col. Wright,⁷⁶ the center of the manufacturing industries was in eastern Pennsylvania, to the north of Harrisburg, in 1850; in 1890 it had shifted to the vicinity of Canton, Ohio.

The growth in the number of laborers has been less marked, a logical result of the increased productivity of labor, due to machinery. According to the census it has quintupled in forty years, although, as I noted above, a rigid comparison is not permissible since the later enumerations have been more complete than the earlier ones. The census of 1850 recorded 957,059 persons employed in the manufacturing industries; that of 1890, 4,712,622 persons.⁷⁷

⁷⁵ *The Industrial Evolution*, p. 138.

⁷⁶ *The Industrial Evolution*, p. 160.

⁷⁷ Years.	Employees.	Years.	Employees.
1840 ¹	564,617	1870	2,053,996
1850	957,059	1880	2,732,595
1860	1,311,246	1890	4,712,622

¹ Enumeration incomplete.

In 1850 this class of laborers constituted four per cent. of the total population; in 1890, seven and one-half per cent. The laboring class seems thus to have increased, not only absolutely, but in proportion to the general population.

The industrial development of the United States, by reason of its importance and rapidity, forms an unique phenomenon in the economic history of the world, and for this alone, it has been interesting to glance over it and fix its landmarks firmly in mind. This development could not have taken place if the United States had not possessed a climate suitable for European colonization and a vast territorial domain sufficiently rich in cultivable lands, not less rich in useful minerals, and easily taken from a native race that had no settled place of abode. Neither would it have been possible had not an endless swarm of immigrants, armed with all the resources of civilization, arrived from Europe to fertilize its soil. In turn, the industrial development which we have been describing has produced a certain social condition that explains, in a large degree, the peculiar status of the American laborer. This is why it was necessary to give some account of the industrial development of America, before beginning the subject proper.

CHAPTER II.

THE PRODUCTIVITY OF LABOR AND MACHINERY



The movement towards concentration.—American statistics show plainly that a movement towards concentration is operating in almost every branch of industry. Proof of this fact is given by the figures quoted in the preceding chapter. In the iron industry there were 1,005 establishments with a production valued at \$69,500,000 in 1880; in 1890, there were 615 establishments with a production of \$431,000,000, and prices were then very low.¹ It may be added that seven of the eighteen establishments producing Bessemer steel in 1890 furnished more than ninety-five per cent. of the total product. Five of these (with seven factories) were located in Pennsylvania, one (with four factories) in Illinois, one in Colorado. There has been a double concentration—in ownership and in situation.

In the *woolen* industry there were 2,689 establishments in 1880 and 2,489 in 1890; the average production per establishment was \$98,000 in 1880 and \$136,000 in 1890. The two states which held first rank in this industry—Massachusetts and New York—possessed respectively in 1870, 16.4 and 12.7 per cent. of the total number of carding ma-

¹ In spite of the fall of prices the average production per establishment was about \$665,000 in 1890 as against \$256,000 in 1870. In proof of the fall in the price of these products, Col. Wright states that from 1870 to 1880 the quantity produced increased 99 per cent., while the value increased only 43 per cent., and that from 1880 to 1890 the quantity increased 151 per cent., the value of the products, 61 per cent.

chines in the United States; in 1890 these proportions had risen to 22.4 and 17.1 per cent., respectively.² The districts which profit most by concentration are those which are best equipped when the process begins. In the *cotton* manufacture there were 936 establishments in 1870,³ with an average production of \$196,000; in 1890, 905 establishments, with an average production of \$293,000. During this period the number of spindles doubled, and, moreover, each spindle was more productive in 1890 than in 1870. As the prices of cotton goods have diminished greatly, a fairer idea of the concentration that has taken place may be gathered from the increase of spindles, than from the increase in the value of the products. In the *silk manufacture*, the number of establishments has increased because of the rapid expansion of this industry in the last twenty years. But even in this industry the average capital per establishment increased from \$72,000 in 1870 to nearly \$110,000 in 1890. In 1860 there were 213 mills engaged in the manufacture of *carpets*, and the total production was valued at less than \$8,000,000. In 1890 there were only 173 mills, but the production had risen to \$47,700,000.

The number of *flouring* and *grist-mills* decreased from 24,338 in 1880 to 18,470 in 1890, their average daily capacity increasing from 194 to 298 bushels. In the same decade⁴ the number of *chemical* works decreased five per

² *Eleventh Census*, "Manufacturing Industries," pt. iii, p. 15.

[The monograph upon "The Textile Industries" published in the Massachusetts report *Statistics of Manufactures*, 1898, contains some very interesting information upon the progress of concentration and the decline of the textile industries in Massachusetts. From 1895 to 1898 the number of textile establishments decreased from 593 to 500, while the value of the products fell from \$196,964,178 to \$193,376,168, a decline of 16 per cent. in the number of establishments as against a decline of 2 per cent. in the production. The proportionate numbers of carding machines owned in Massachusetts and New York, was practically the same in 1898 as in 1890.]

³ Concentration had begun even at this time: there were 1,240 establishments in 1840.

⁴ It was pointed out in the *Tenth Census* that the number of flouring and saw mills was greater in 1840 than in 1880, although

cent., while the value of their products increased almost fifty per cent.⁶ The number of *furniture* factories remained stationary, while their production increased fifty per cent.; the production of *bricks and tiles* doubled, while the number of establishments remained the same. Even in those industries in which we should expect an increase in the number of establishments and in which the enumeration was more complete in 1890 than in 1880—*e. g.* masonry⁷—the size of the business has increased more rapidly than the number of entrepreneurs; a positive indication that on the average the industrial unit has become larger. If there are exceptions, such as the manufacture of *confectionery*, in which the number of employers has increased *pari passu* with the increase of the trade, they are the results of special causes. I shall recur to this industry in connection with the "Sweating System."

The manufacture of *agricultural machinery* ought to spread, it would seem, as the land is appropriated and cleared for agricultural purposes. It has, however, done nothing of this sort. The subjoined footnote⁷ shows that

the area of the United States was fifty per cent. greater at the latter date. The census of 1890 shows the persistence of this tendency.

	1840.	1880.	1890.
Flouring and grist-mills.	23,361	24,338	18,470
Saw mills	31,650	25,708	21,011

⁶ In 1880, 49 establishments produced 308,000,000 pounds of sulphuric acid; in 1890, 105 establishments produced 1,384,000,000 pounds, although the price had diminished about seventy per cent. In 1880 there were 278 establishments making chemical fertilizers, in 1890 there were 392 such establishments, and the production had risen from 727,000 to 1,898,000 tons. The production of glass has doubled; \$21,154,571 in 1880, \$41,051,004 in 1890. In each industry noted, the average production per establishment was greater in 1890 than in 1880.

⁷ In 1880, 1,591 establishments with a production of \$20,586,553; in 1890, 7,715 establishments producing \$204,165,642.

Years.	Establishments.	Employees.	Value of products.
1870	2,076	25,249	\$52,000,000
1880	1,943	35,580	68,000,000
1890	910	30,730	81,000,000

Tenth Census, "Report on the Factory System of the United States," p. 16. Illustrations of this kind could be multiplied indefinitely.

in twenty years the number of establishments has decreased more than fifty per cent., while the production has increased nearly fifty-six per cent.

Twenty years ago Carroll D. Wright used these words in speaking of the adoption of the factory system: "While the inauguration of the factory system in the United States was some fifteen years later than its birth in England, the extension of the system has been more rapid and its application more varied here than in any other country. As parties engaged in industries other than the manufacture of textiles saw the wonderful results of systematized labor, by its division under the scientific methods of the factory system, they gradually adopted the new order, until now it is quite safe to say that of the nearly three millions of people employed in the mechanical industries of this country, at least four-fifths are working under the factory system.* Most of these industries have been brought under the factory system during the past thirty years [1850-1880]."

What has been called "the system of interchangeable mechanism," stands in intimate relation, both as cause and effect, to the progress of concentration in certain industries. Establishments using this system number and classify, by size and quality when possible, the parts of the machines they manufacture, and make them so uniform that any part is capable of being replaced by another of the same number. Under such conditions the manufacturer finds it advantageous to employ the most powerful and delicate machinery, which, being confined to a single operation, turns out its product in large quantities. The purchaser of a machine made in this way finds no difficulty in securing by correspondence a substitute for any part that gets out of order. Thanks to this system the manufacturer can produce more cheaply on the one hand, and on

* This proportion had not increased in 1890, but it was on account of the fact that the enumeration of the hand-trades was much more complete in the latter year.

the other, he can enlarge his trade—two very important considerations in a country as vast as the United States. Specialization is the result of this system, which is to-day applied to almost every commodity of large consumption, from agricultural implements and steam-engines to watches and nails.*

The movement towards concentration is not peculiar to the United States: it is one of the characteristic phenomena of the economic evolution of our time, and manifests itself in every manufacturing country. The principal causes of the movement are to be found in the cheapness and rapidity of transportation, which facilitate the collection and distribution of supplies; the application to production of scientific processes; the employment of steam and machinery; above all, in the construction of railroads, the growth of capital and the increase of consumption. A large factory is more difficult to establish than a small workshop, but when once established it has the advantages of bringing every process under the eye of the entrepreneur, of giving greater unity of direction while facilitating a rational division of labor, of economizing space and motive power, of saving time and facilitating the trial of new inventions. Competition is continually forcing new industries to introduce factory methods, and impelled by the same force, the industrial unit is rapidly undergoing an expansion that is limited only by the power of one man to superintend his personnel and manage his business efficiently. In the

* *Tenth Census*, "Manufactures," vol. ii, "Interchangeable Mechanism." The Americans excel in this system, particularly in the manufacture and sale of watches, fire-arms, agricultural machinery, steam-engines, electrical appliances, and furniture. In some industries specialization is very highly developed, while in others, several processes, usually disassociated, are carried on together in the same establishment. The manufacture of rubber goods, in which one establishment manufactures nothing but bands, another only hose, a third shoes, etc., furnishes a good example of specialization. Rubber shoes are never repaired; it is cheaper to buy new ones.

United States crises seem to possess a peculiar energy, and these have aided in accelerating a transformation that becomes, at times, brutally rapid. The work is not finished, the transformation continues; in the future it will probably proceed with even greater rapidity.¹⁰

As a rule household industry persists only where wages are low, and it is not in this direction that we should look for improvement. Customs duties, which have been increased in most countries during the last fifteen years, restrain commercial expansion and offer a certain amount of resistance to the movement towards concentration, but they cannot arrest it.

The household industry of the past and its transformation.—At one period, both in America and Europe, manufacturing industries of all kinds were on a very small scale. The fabrication of woolen goods, now manufactured almost exclusively in factories may be cited as an example:

"Prior to 1790 this industry was almost wholly confined to the household, in this country; and for many years later the great bulk of the domestic woolen goods worn by the people continued to be made in the homes by the hand-card, the spinning-wheel, and the clumsy wooden hand loom inherited from the original settlers of the colonies. . . .

¹⁰ The following table shows the variation in the number of establishments and in the value of the products of the nine principal industries of Massachusetts, from 1885 to 1895. The results show that the total number of establishments decreased nearly 11 per cent., while the value of the products increased almost 20 per cent.

Nine principal industries.	Establishments in 1885.	Establishments in 1895.	Value of products, 1885.	Value of products, 1895.
Boots and shoes	2,336	2,074	\$114,729,533	\$122,135,081
Carpetings	46	14	6,536,341	7,447,115
Cotton goods.....	165	188	61,425,097	93,615,560
Leather	699	649	28,008,851	27,863,217
Machines and machinery.	622	660	20,365,970	33,492,848
Metals and metallic goods	2,732	2,309	41,332,005	40,297,899
Paper and paper goods..	148	160	21,223,626	27,955,024
Woolen goods.....	189	166	31,748,278	29,370,963
Worsted goods	23	31	11,198,148	20,975,996
Total.....	6,990	6,251	336,567,849	408,153,703

See "Manufactures," *Census of Massachusetts*, 1885 and 1895. [Tr.]

"Secretary Hamilton in his report on manufactures [wrote]: 'there is only one branch of wool manufacturing which, as a regular business, can be said to have acquired maturity; this is the manufacture of hats.' Speaking of the household manufacture of fabrics he said: 'There is a vast scene of household manufacturing which contributes more largely to the supply of the community than could be imagined without having it made an object of particular inquiry. Great quantities of coarse cloths, coatings, serges, and flannels, linsey-woolseys, hosiery of wool, cotton and thread, coarse fustians, jeans and muslins, checked and striped cotton and linen goods, bedticks, coverlets, and counterpanes, tow linens, coarse shirtings, sheetings, toweling and table linen, and various mixtures of wool and cotton, and of cotton and flax, are made in the household way, and, in many instances, to an extent not only sufficient for a supply of the families in which they are made, but for sale, and even in some cases for exportation. It is computed in a number of districts that two-thirds, three-fourths, and even four-fifths of all the clothing of the inhabitants are made by themselves.'"¹¹

In spite of the efforts made by devoted patriots or venturesome entrepreneurs to introduce the English factory system in America, the state of affairs described by Mr. North persisted in almost all sections of the country up to the year 1840, not only in the woolen, but in most other industries.

When General Humphrey built his paper mill and his cotton and woolen factories at Humphreysville in 1804, he entertained the project, among others, of improving the lot of the poor by providing them with work. In carrying out his paternalistic scheme he built cottages for his workmen, each of which had a small garden. He also provided teachers for the apprentices. Every act of immorality was punished by instant dismissal. But the prevailing opinion was so unfavorable to the factory system, the horrors of which were fully described in the English newspapers, that

¹¹ *A Century of American Wool Manufacture, 1790-1890*, by S. N. D. North, p. 5 *et seq.* For further information upon this subject, see the Massachusetts report *Statistics of Manufactures* 1898; W. R. Bagnall's *History of the Textile Industries in the United States*, and the sketch of the *New England Wool Manufacture* now appearing in the *Bulletins of the National Association of Wool Manufacturers*, in particular, the June number, 1899. [Tr.]

many parents refused to allow their children to accept employment in his works.¹² At Lowell, the farmers' daughters whose bearing was so admired by Miss Robinson and Michel Chevalier about 1830, decided to accept work in the factories only after great hesitation.

In Pennsylvania where the cotton manufacture was established very early, it was carried on for a long while on a very small scale: the first important company dates from 1844. The same is true of paper; it was made by hand and in small quantities. In 1854 a small mill with "two rag-engines and a seventy-two-inch-cylinder paper machine" was erected in the county of Lancaster, and a second in 1855. But a few years later they were both in ruins, and it was not until 1859, or really after the Civil War, that the manufacture of paper by machinery became at all successful.¹³

In 1820 a Massachusetts cloth mill, the largest in the United States at that time, possessed a mechanical equipment of four carding engines, one picker, three jennies, 516 spindles, one roper, six broadcloth looms, and two cassimere looms. The company employed 46 men, 23 women, and 23 children. As a matter of fact the industry had not advanced very far beyond this, even in Europe. In 1824 the machinery for wool-making was considerably modified by Goulding's carding machine; after 1840 it was practically revolutionized by the invention of the Crompton and Bigelow looms which made possible the weaving of fancy cassimeres and carpets by machinery. As early as 1845 there was one establishment in Massachusetts that employed 1,500 laborers, and another that employed 500. But these were exceptional cases.

Most of the industries in the North, including the manufacture of woollens and worsteds, were keenly stimulated by the Civil War. In 1880 the capital invested in the

¹² *Old World Questions and New World Answers*, 1887.

¹³ *Second Report of the Commissioner of Labor Statistics*, Penn., 1875, p. 368.

woolen manufacture was estimated at \$159,000,000. In the census of 1890 it was estimated at \$296,000,000, but the two valuations are hardly comparable as the latter enumeration was more complete than the former.

The Lowell factories, 1835-1893.—A comparison of the condition of the principal Lowell establishments at these two dates will give a sufficiently accurate idea of the progress and the concentration which have taken place there. In 1835 Michel Chevalier commented upon the importance of these factories. The largest of these, The Merrimack Manufacturing Company, had a capital of \$1,500,000 in 1835, thirteen years after it was founded. It operated 34,432 spindles and 1,253 looms; in its printing room and its five spinning and weaving rooms, employment was given to 1,758 operatives; it manufactured 172,000 yards, and dyed and printed 150,000 yards of cottonades weekly. In 1893 the number of rooms was the same, but the capital had risen to \$2,500,000, the number of spindles and looms to 158,976, and 4,607 respectively, the weekly output of manufactured goods to 1,000,000 yards, and the weekly output of printed goods to 1,250,000 yards.¹⁴ In other words, the products had increased sixfold and sevenfold respectively, while the number of hands (2,800) had not doubled. These figures contain in miniature a history of the natural evolution of modern industry; an increase of capital and machinery, a greater increase of products, and the greatest increase of all in the productivity of labor.

Further comparison reveals the additional facts that a considerable saving has been effected in the amount of cotton employed, probably because less material is wasted and the fabrics are lighter. The saving in fuel and other accessory materials has been greater still, although much more power is obtained.¹⁵

¹⁴ The company dyes and prints goods manufactured by other concerns.

¹⁵ In 1885, 40,000 pounds of cotton were used weekly; in 1893, 190,000 pounds. Raw material has thus increased only 375 per

A comparison of the five other joint-stock companies which existed in 1835—two of them have now consolidated—yields similar results. There are now ten incorporated companies, four more than in 1835, engaged in the manufacture of cotton; the total number of spindles has been raised from 116,804 to 951,472; the number of looms from 3,933 to 28,583; with their more productive machinery they put out 244,500,000 yards of cottonades in 1893, while in 1835 the production barely reached 3,800,000; the number of operatives has only tripled (6,563 in 1835, 20,866 in 1893). Few industries, in Europe or America, could furnish such exact data for a comparison extending over sixty years, although certain figures do not refer to exactly the same things in both epochs. The preceding statistics, which are given *in extenso* in the following table, are taken from the *Annual Statistics of Manufactures in Lowell and Neighboring Towns*, January, 1893. They are instructive from several standpoints and place in a clear light the phenomenon of concentration in the United States.

The introduction of the giant industry.—With respect to machinery and the general introduction of large manufacturing plants, the United States is at the present time in advance of the countries of continental Europe and even, I believe, of England.

I have visited establishments of many kinds and everywhere I have been struck by the pains which the Americans take to economize labor. At the Maryland Steel Works, situated on the water-front at Sparrow's Point near Baltimore, the fuels and ores are received by boat and hauled to the blast-furnaces in cars. The cars are then raised by elevators over the mouth of the furnace and automatically emptied through the bottoms. Each of the four blast-furnaces has a daily capacity of about 250 tons of pig iron, and the iron is converted into steel in two converters which

cent., while the production has increased 481 per cent. The consumption of oil and fuel has increased about 172 per cent. I have not been able to compare the water power employed.

THE COTTON MANUFACTURE AT LOWELL IN 1835 AND IN 1833.

	Capital (¹) (dollars).		Spindles.		Power looms.		Operatives.		Weekly production (yards.)		Weekly consump- tion (pounds.)	
	1835.	1833.	1835.	1833.	1835.	1833.	1835.	1833.	1835.	1833.	1835.	1833.
Merrimack	1,500,000	2,500,000	34,434	158,976	1,253	4,607	1,758	2,600	172,000	1,000,000	40,000	190,000
Hamilton	900,000	1,800,000	18,944	108,816	560	3,035	980	2,000	78,000	730,000	25,500	180,000
Appleton	500,000	600,000	10,240	50,776	350	1,610	545	1,080	80,000	313,000	30,000	122,000
Lowell.....	500,000	2,000,000	4,500 ²	2,000 ³	208	491 ⁴	475	2,100	43,270	80,000 ⁵	25,600	10,000
Suffolk	450,000	1,500,000	10,240	118,000	350	4,050	530	2,200	90,000	700,000	30,000	240,000
Tremont.....	500,000	500,000	11,136	118,000	404	4,050	530	2,200	120,000	700,000	30,000	240,000
Lawrence	1,200,000	1,500,000	24,192	120,000	710	3,432	1,160	3,140	164,000	695,526 ⁶	54,600	278,233
Middlesex.....	500,000	750,000	3,120	18,640	98	200 ⁷	385	700	6,000	15,000	.....	.....
Total for the United States.....	6,650,000	18,100,000 ⁸	116,804	951,472	5,051	28,581	6,563	20,866	753,270	per year, 244,420,000	253,700	78,175,000

¹ With respect to capital an important reservation must be made; these estimates take no account of stock watering, if indeed there has been any watering. The totals include the returns for certain establishments which were not in existence in both epochs. ² Woolen spindles not included. ³ 22,750 woolen spindles. ⁴ Carpet looms. ⁵ Yards of carpet. ⁶ Certain fabrics omitted.

⁷ Broad looms. ⁸ This total includes the capital of certain establishments other than cotton manufactures.

have an average capacity of sixteen tons per heat. The ingot-molds are all fixed on a revolving table which carries them one after another to the tap-hole of the converter, where they receive the molten steel. The Maryland Steel Works cover 1,000 acres, and were built in 1889 with the design of utilizing Cuban ores. The blowing engine, the revolving molds, the huge pumps with a daily capacity of millions of gallons, the blast-furnaces rising eighty-five feet in air like the towers of a fortress; everything throughout is colossal.

The Homestead Steel Works belong to the Carnegie Steel Company, and are situated about six miles from Pittsburgh, in a village which consists, so to speak, of the works, the workmen and the few stores which the latter support. The company manufactures ship-plates and structural materials. In 1892, the year of the well-known strike of which I shall speak in another chapter,¹⁶ about 3,800 men were employed in the works. When I visited the works business was very dull and the employees numbered only 3,200. This plant has produced as high as 4,000,000 tons of steel in a single year. The Carnegie Company owns in addition eight other works and employs in all about 13,000 men. Some years ago the several plants controlled by the company were valued at \$25,000,000, which, it seems, is far too low an estimate.^{16a}

The two converters in the Homestead works each holds ten or eleven tons. The roll-train, consisting of three superimposed rolls of enormous power, fashions with ease and with comparatively little noise, enormous pieces of steel. In the great shop in which the roll-train is situated, an endless chain carries the ingots on a revolving table three hundred feet long.¹⁷ The glowing ingot is caught between

¹⁶ See chap. v.

^{16a} Capitalized recently, in combination with the H. C. Frick Manufacturing Company, at \$160,000,000. The true value was probably very much greater than \$100,000,000. [Tr.]

¹⁷ Mr. Schoenhof says that before the introduction of these automatic tables, from fifteen to seventeen men were required in a

the lower and middle rolls, flattened, elevated by a table to the level of the top roll, again lengthened and flattened by several passes, until finally it is twenty times as long as when it started. Six heating-furnaces keep the bloom at white heat while it is being rolled. Much of the heating is done by natural gas and it was to take advantage of this fuel that the present site was selected.

The ship-plates are made in another building, over 600 feet long and specially constructed for this work. The trimming and finishing machines, imported from Scotland, are capable of handling armor-plates twenty inches thick. At the time of the strike the company was under contract to furnish the Government 6,000 tons of armor-plate.

The Illinois Steel Company, another of these gigantic works, was founded a few years ago by the consolidation of several companies. Situated at the southern extremity of Chicago, it receives by direct shipment over Lake Michigan the excellent Lake Superior ore, which is unloaded with surprising rapidity by a few workmen using two machines. The number of employees varies from 3,500 to 3,800.¹⁸

The eight blast-furnaces are arranged in two rows, and built upon iron platforms. Each furnace is provided at the back with four blowing-engines, and has a capacity of from 300 to 350 tons per day. Together with the three converters, each able to pour 2,000 tons of steel daily into the ingot-molds arranged around them, they produce an imposing idea of the power of this establishment.

The rolling-mill, which is about 300 feet long, produces an impression even more thrilling, because the exhibition of power is supplemented by the crash and roar of enormous machines at work. These machines take up the glowing ingots, which are larger than a man, carry them

rail-mill which now requires but five. *The Economy of High Wages*, p. 94.

¹⁸ In addition, there are from 4,300 to 5,000 workmen employed in the Joliet and Bridgeford works which belong to the same company.

to and from the rolls, flatten them, and finally draw them out into sections. They are transformed instantly, so to speak, into steel rails, and are then carried by tables moved on endless chains to the end of the room, where circular saws cut them into the regular lengths, with a strident grinding and a continuous shower of sparks. There are few workmen in this vast room. In the center, a roller with three or four assistants directs the machinery by pressing a button. At the end of the room one sees a few laborers. The machines do everything, and there is much to be done; the rolling alone requires 3,000 horsepower. But they accomplish their work with ease, now giving the idea of might as the rolls exert their power, now that of grace as the cranes grasp and lift the ingots. It is not astonishing that certain employees upon whom the success of the operations depend, are well paid. I was told that the chemist who examined the color of the flames issuing from the converter, made \$430 in the month of May.

These three are undoubtedly establishments of the first rank and cannot be taken as representative.¹⁹ But if we omit them, it may still be asserted that the average size of establishments of this kind in the United States is larger than in Europe. The aggregate capital of the 645 iron and steel works enumerated in the census of 1890 was \$372,500,000, about \$580,000 per establishment.

Every one knows, in Europe as in America, how the capacity of the blast-furnace has been increased, but everyone is not aware how far America is in advance of Europe in this respect. It is not that the Europeans are incapable of constructing the largest furnaces; I understand that several of gigantic size have been built in Scotland, though they seem to have been unsuccessful. In France 100 tons is considered a very good day's product. I have just cited

¹⁹ Nor the Bethlehem Iron Company with its hammer of 125 tons which has a stroke of more than 16 feet. The hammer was modelled after the celebrated one at Creusot, France. The works date from 1857.

several furnaces in America which produce 300 tons or more.

Mr. Swank has given some account of the development of the blast-furnace in his *Iron In All Ages*. He cites the "noteworthy achievements" of a New Jersey furnace, 20 by 55 feet, which in one week in 1850 produced 251½ tons of pig iron, and in another week in 1858, 319 tons. In 1884 a furnace "located at Etna, near Pittsburgh, closed a three-years' blast," during which the average weekly output was 1,090 tons. In 1890 a furnace at Braddock, Penna., produced 2,462 tons in one week and 502 tons in one day.²⁰

There were more blast-furnaces in the United States twenty years ago than there are to-day. The number reached its maximum, 455, in 1881, then diminished steadily to 311 in 1890; meanwhile the production had doubled. It is very evident that the average capacity of the blast-furnace has increased.²¹ In 1875 it was 19 tons; 24 in 1880; 57 in 1885; 82 in 1890; and 100 tons in 1893.²² As a rule it is the smallest furnaces which are unable to stand the competition and in consequence have to be abandoned.

The introduction of the converter into the United States dates from 1865, ten years after its invention by Bessemer. The Siemens-Martin furnaces date from 1868. Both have

²⁰ *Iron in All Ages*, p. 452 et seq.

²¹ Blast-furnaces in the United States:

Years.	In blast on December 31.	Total number in existence.	
1873.....	410	657	Before the crisis.
1876.....	236	....	During the crisis.
1881.....	455	716	Maximum.
1884.....	236	....	New decline.
1889.....	344	570	New maximum.
1890.....	311	562	
1897.....	191	423	
1899.....	289	414	

²² The annual output of pig iron at the last three census years was as follows:

Years.	Establishments.	Production (millions of short tons).	Annual production per establishment (metric tons).
1870.....	386	2.0	5,318
1880.....	341	3.8	11,000
1890.....	304	9.9	32,587

multiplied rapidly, and their output has increased as their capacity has been enlarged. The production of Bessemer has grown from 2,679 long tons in 1867, to 6,609,017 in 1898; that of open-hearth steel, from 1,339 tons in 1870, to 2,230,292 tons in 1898.

I might cite a number of examples, hardware-, carriage-, lead-manufactories, etc., where the machinery and the economy of labor have struck me as remarkable. I pass, however, to others; it would be superfluous to multiply examples from the metallurgical industries.²²

Until about 1850 the farmers of Massachusetts made their own foot-wear, working at home in the dull seasons. By degrees the manufacture was developed on a small scale, particularly at Lynn, and as machinery was perfected, the small shops were replaced by large factories. Of all these allied trades shoemaking is the one in which the transformation has been most complete. In the factories which I visited at Lynn and Nashua, New Hampshire, everything is done by machines whose variety, speed, ingeniousness and skill, if the last term be permissible, are remarkable. One factory employing 233 operatives produces daily 2,100 pairs of women's shoes, about nine pairs a day for each employee. There is no place for the all-round workman, as no one makes a complete shoe; the object is to obtain speed in one operation. One operative cuts out the soles, another the uppers, a third fixes the heels; some of the sewing is done by women, one making the buttonholes, her neighbor, the hems, another sewing on the buttons. Each one uses a separate machine, the common property of which is speed; the button-hole machine makes 4,760 button-holes a day. With the assistance of one of the operatives I calculated that each pair of shoes passes through fifty-three hands. This is one of the industries in which the division

²² For a description of the principal concerns engaged in the manufacture of agricultural and food products, see *L'Agriculture aux États-Unis*, by E. Levasseur.

of labor has been carried the farthest, and owing to new inventions a constant tendency toward further subdivision is apparent.

A French workingman enumerates ten kinds of machines used in the manufacture of shoes, which were in operation in the model work-room at the Chicago fair. Several of these are in use in France. Low prices, at least, are secured by such machinery.²⁴

Cigars were originally manufactured by hand. When the manufacture by the so-called "German mold" was introduced, the workmen at many places went on strikes and destroyed the machines, in the belief that the new system would make their skill worthless and reduce wages. They were forced to bend before necessity, however, and the machines triumphed, if not everywhere, at least in the manufacture of cheap cigars. The same results followed the introduction of the "bunch-making and rolling system," and certain machines which rendered other parts of the work mechanical. After numerous strikes the workmen were obliged to yield, and in 1873 the Cigar-makers' Union consented to admit men who used these machines.²⁵

Cheapness is the principal aim of all these improvements, in whatever industry they are introduced. In order to support their demands for protective legislation, the American manufacturers are constantly repeating that without the tariff they would be unable to withstand foreign competition. But in many industries they meet the foreign competitor successfully on his own ground, and at times they boast of the fact. It is well known that they have gained a foothold in the French markets on the strength of their low prices, and they are right in doing so. I brought back

²⁴ The delegate from the shoemaker's union of Paris asserts that the Americans are superior to the French not only in the manufacture but also in the prices of their shoes, which are from 20 to 30 per cent. lower than in France.

²⁵ *Fourth Biennial Report of the Minnesota Bureau of Labor*, p. 303.

from America a stout pair of men's shoes, the wholesale price of which was only eighty cents.

Other countries contain great establishments comparable to those which I have just cited; this is just as unquestionable as the fact that, in America, all the factories are not modelled after those I have described. Every country loves to show visitors the specimens that do it credit, and the visitors themselves are attracted to the large establishments. I saw many plants of average size and I realize that there are many establishments conducted on a scale by no means superior to that which we are accustomed to in France. The tendency of new establishments, however, is to operate on a large scale.

Visits of the French labor-delegates to the Chicago exposition.—This delegation was divided into a number of groups, each of which visited several establishments in their special trade during the space of a very rapid visit. In almost every instance the impression received was the same. Speaking of a manufactory of machine-tools at Philadelphia, they remark that the industry is more specialized than in France, the machinery costlier, but by its greater productivity, more conducive to low-priced products.²⁶ In the works of a company engaged in the manufacture of iron bridges they note the complete mechanical equipment and in particular a stamping-machine that "repays many times over the \$12,000 that it cost." . . . "You feel that machinery is expected to do everything," said the delegate from the furniture industry. "With the part of the workman reduced to a minimum, they produce quickly, in large quantities and at low cost."²⁷

The delegation also remarked how alert the Americans are for new improvements. "American manufacturers," they say in the preamble to their report, "invariably seem to amortise their capital with the settled intention of replacing their machines by new and improved patterns."²⁸

²⁶ *Rapport de la délégation ouvrière*, p. 71.

²⁷ *Rapport de la délégation ouvrière*, p. 144.

²⁸ *Ibid.*, p. 13.

In reference to a prominent manufacturer of agricultural machinery, Messrs. Grille and Lelarge say: "This is the oldest house of the kind in America. Notwithstanding this fact, it is impossible to find in it a machine that is old-fashioned or out of date. It is evident that as soon as a machine is worn out or superseded by an improved pattern, it is forthwith thrown on the junk-pile."

I myself received evidence of this feeling. In Minneapolis I went through the factories at night, under the guidance of Mr. Powers, the commissioner of labor. We remained more than an hour at one saw-mill on the bank of the Mississippi, whose buildings were little better than sheds. I admired the powerful machinery as it incessantly lifted great trunks of trees from the water, handling them like match-sticks, but with a deafening noise, trimming them, sawing them up, and a few moments after their departure from the water, automatically piling up the finished boards. This mill turned out 300,000 feet of lumber in twenty-four hours. "This system is two years old," the commissioner said: "I regret that I am unable to show you one of our newer mills that is not running to-night. This one will soon have to be reconstructed." On our return we saw near the river, a building whose windows were broken. When I asked what the building was, he replied: "a mill that is seven years old. The machinery has changed so much that it had to be abandoned."

The delegates representing the metallurgical and mechanical industries conclude their report in these words: "In ending this account of our visits, we cannot refrain from testifying to the great productivity of machinery in general. In this respect the Americans are certainly ahead of us, and their superiority is primarily due to the fact that their manufacturers do not hesitate to spend enormous sums for machinery. They use the very best steel, whatever the cost may be; the astonishing speed of their machinery would be impossible if the material were not of the best quality. The high specialization of their machinery

seems, in many instances, to partake of the marvellous; it is a result of the division of labor on the one hand, and on the other, of a competition between powerful concerns which is much more intense than in France.”²⁹

The delegates of the labor-unions of Paris returned in exactly the same frame of mind, and expressed themselves even more bluntly. “It is difficult to conceive of the perfection of their machinery,” writes the shirt-maker, “it is marvellous.” “By the great development of machinery,” said the shoemaker, “the American workman finds his work reduced to the simple task of directing machines. We have particularly noticed the skill of the Americans in manipulating their machines; they know how to get good work out of their machines; we know that they have got the manufacture down to perfection.” “The mechanical industry has arrived at such a point in America,” says the machinist, “that if we wish to contend against it without a protective tariff, we must relegate our machines to the garret and get modern types.”³⁰

Trusts and the extent of the market.—Among the reasons which explain the importance and number of large establishments in America, it is necessary to include, in addition to the peculiar character of the people, the size of the population and the high *per-capita* consumption. The Americans now possess, within the boundaries of their own state, an unrestricted market of seventy million purchasers, provided throughout with rapid and inexpensive means of communication, and totally free from octrois or internal tariffs. The population is increasing rapidly, and on the average, the people spend more in equipping farms and factories, in clearing the soil, constructing houses, and in personal enjoyment, than do the people of Europe. Here we have the reason, to employ one example, why they have

²⁹ *Ibid.*, p. 131.

³⁰ *Délégation des Syndicats des Ouvriers de Paris à l'Exposition de Chicago*, pp. 325, 345, 387.

built more miles of railroad than the 380,000,000 inhabitants of Europe have done. And everything is on the same scale. Knowing that their market will not fail them, manufacturers are encouraged to carry production to the highest possible point and thus produce at the lowest cost.

The Americans, moreover, to use one of their own phrases, love to act and talk big; it is one of their tricks of speech. Among the superlatives with which they qualify their products and their establishments, one constantly hears the expressions: "the greatest," "the largest in the world," etc.

"The American system gives great results in times of active demand and unrestricted outlet, but shows frequently disastrous results when depression sets in," writes Mr. Schoenhof.²¹ A French engineer to whom I spoke of the powerful machinery at Homestead answered: "That is all very well; we could do the same in France; but we would not want to do it, because in one month we should have filled the whole year's orders."

Another cause of concentration is found in the mobility of the population, and the rarity of caste traditions. Unlike Europe, there is no district where an occupation descends from father to son. Consequently the entrepreneur does not have to disturb himself with this consideration when he sets up a factory. The works once open, workmen are sure to arrive, often, if the wages be good, from great distances.

There is competition between these great concerns; but in America as in Europe, or even more than in Europe, the competitors realize that they would do better by acting in concert. In consequence, "trusts" and "rings" are formed. Some of these are now very powerful, and have even acquired a certain celebrity in commercial history.

When socialists reproach the capitalists with having repudiated their principles by forming "trusts," "pools,"

²¹ *The Economy of High Wages*, p. 56.

"rings," etc., it is to America first of all that they turn for their examples. They repeat the definition given by the committee of the New York State Senate in relation to trusts, viz.: that trusts are monopolies—"the general purposes and effects of which are to control the supply of such commodities and necessities, destroy competition, regulate the quantity, and to keep the cost to the consumer of such commodities at prices far beyond their fair and equitable value." They instance the Standard Oil Company, and the combination of "coal barons," they cite the pool of the steel-rail manufacturers, who, in order to raise prices depressed by over-production, paid the owners of the Vulcan works at St. Louis \$400,000 annually to keep them closed—a proceeding which assured a return to the capital invested while it deprived the workmen of their wages. Merchants or producers of leather, milk, sugar, caoutchouc, glass, etc., have formed combinations whose effects, while varying in degree, have been similar in kind to those of the larger trusts.

In itself the trust is a legitimate form of voluntary association. But it is possible for such associations, whether of masters or workmen, to become oppressive, and in these cases the intervention of the government, charged as it is with the protection of individual rights and the general interests of society, is legitimate. Combinations which aim to control the market, and which oppress the merchant, the laborer, and the consumer, are reprehensible; by abusing their powers, some of these have instilled grievances in the American mind against the very principle of competition, which in itself is salutary. It is exceedingly difficult to demarcate the just limits of the freedom of association, but in any event, trusts are very unpopular. The labor-unions are unanimous in protesting against them, and denounce them as one cause of the subjection of the workingman. In one street of Philadelphia I saw what are known as "human sign-boards" walking about with this single ad-

vertisement of a certain brand of ink: "Not made by a trust."

Consolidation shows itself not only in manufactures, but also in transportation, and the railroads have grouped themselves, either by purchase or fusion, into systems more extensive than in France.²² In the cities, the department store flourishes, showing that concentration is also going on in trade and commerce. The tendency is, in fact, general.

In the United States competition has free play throughout a territory almost four-fifths as large as Europe. At the outbreak of the Civil War the states of the North and East had a practical monopoly of large manufactures, and the victorious Republicans framed their tariffs with the view of preserving this supremacy by excluding foreign competition. But internal competition soon arose from the states of the middle and northern Mississippi valley, the metallurgical industry and the manufacture of boots and shoes being particularly successful in these sections of the country. In the iron and textile industries, the competition of the Southern States is now making itself felt in the Northern States.

Industrial improvements illustrated.—To describe the improvements in the machinery, agents and processes of manufacture which have modified the conditions of labor in the last twenty years, it would be necessary to write the whole industrial history of that period, and this would make an encyclopedia. I shall confine myself to the bare mention of one or two improvements in the textile manufacture and the printing industry.

One improvement after another has been made in the

²² The total length of the Paris-Lyon-Méditerranée railway in 1898 was 8,970 kilometers, or about 5,561 miles. In 1899 the Pennsylvania Railroad operated 9,070 miles, the Northwestern Line 8,275 miles, the Chicago, Burlington and Quincy 7,751 miles, the Atchison, Topeka and Santa Fe Railway 7,414 miles, etc. *World Almanac*, p. 205 *et seq.*

cotton spindle. Twenty years ago the average speed³³ of the ordinary spindle was not more than 5,500 revolutions a minute. This was increased by the "Sawyer" model to 7,500 revolutions, and by the "Rabbeth" spindle to more than 9,000. Five "Rabbeth" spindles produce more than eight ordinary spindles, using the same amount of power. Allowing, with Mr. Draper, one horsepower for each hundred spindles, and assuming that the number of spindles, new and old, is 14,500,000, it is found that the substitution of new for old machines would effect a saving of 40,000 horsepower; and Mr. Draper adds that there would also be a great saving of labor, as the new machinery does not require so much attention as the old. By a hypothetical and probably exaggerated calculation, Mr. Draper estimates at \$50,000,000 the reduction in the present expense of production.³⁴

The introduction of the ring-spinning frame, the self-acting mule, and the mule spindle improved by the self-centering principle,³⁵ has not only secured an immense increase of speed without necessitating an increase of motive-power, but it has permitted the substitution of women for men in the factories.³⁶

The power-loom, of which there are many varieties, has also received many improvements. In the woolen mills,

³³ The speed of a spindle varies with the number of the yarn. Spinning number five the "Rabbeth" makes only 5,000 revolutions; spinning number forty, the "Rabbeth" makes 9,200, the "Sawyer" 7,500, and the ordinary spindle, 6,100 revolutions. The average consumption of cotton per spindle was 70 pounds in 1880 and 79 in 1890. In the South, where the machinery is newer, it rose to 161 pounds in 1890. See "Manufacturing Industries," *Eleventh Census*, p. 169.

³⁴ Written several years ago. The number of spindles has now increased to nearly 18,000,000.

³⁵ These machines have been made with 1,100 spindles. One spinner and a helper mind two.

³⁶ In wool spinning, the substitution since 1873 of the automatic mule with 600 spindles, for the "handjack" which on the average had only about 240, has brought down the cost of manufacture about 50 per cent.

according to Mr. North, the broad-loom ran at 45 picks per minute before 1857; in 1890 these looms were operated at from 90 to 105 picks per minute. When I was in America in 1876 they pointed out to me as a curiosity, a woman in the Merrimack mills who tended seven calico looms, four in front and three behind. Most of the operatives ran four or six. I was scarcely believed when I related the occurrence in France.⁸⁷ In the same factory, in 1893, I saw one whole row of women minding eight looms apiece, four in front and four behind. The majority of the operatives ran four or six. All the larger factories are run in the same way. In Nashua I found the operatives running two, four, or six looms, according to the kind of goods and the skill of the weaver. The three-quarter cotton looms run at about 180 picks and the four-quarter looms at about 145 picks per minute. This is about the same speed obtained in Europe, but in France one operative minds only two looms. In the factory at Lawrence the cloth looms speed faster than in Europe (105 picks per minute). In the investigation made by the Commissioner of Labor I find the following account of the distribution of looms in one factory: 15 operatives ran four, 17 ran five, 126 ran six, one ran seven, and 18 ran eight, looms apiece.⁸⁸

In the silk manufacture in Paterson the Swiss loom has been replaced by the American "Knowler" loom. Some of these throw from 80 to 150 wefts a minute, make very

⁸⁷ In the reports of the delegates to the Chicago fair occurs the following passage in reference to the factory in Pawtucket: "What struck the delegates from the textile industries was the fact, contrary to French custom, that the operators mind six looms on ordinary goods and four on those which require more care."

⁸⁸ I learn from Messrs. Draper's Sons of Hopedale, under the date of September 17, 1896, that in the factory of the Queen City Cotton Co. of Burlington, Vt., twelve weavers each mind 20, and one weaver 28, Northrup looms working on calico for the size 64 x 64; that in the Merrimack Manufacturing Co.'s works each operative minds 16 Northrup looms, that each loom of this kind produces more than an ordinary loom and that the fabrics are of good quality.

uniform fabrics and are very sensible to defects. The ribbon-loom is much larger than in France and weaves sixteen or eighteen pieces at one time.

For several years past, the type-setting machine has been in general use in printing offices. The effect of this machine will be a further concentration of the printing industry at certain points, and it has already had a disquieting effect upon printers by reducing the demand for their services. From a report prepared in 1893 covering seventy cities, it appeared that 999 machines were in operation in 132 offices, and that the introduction of the machines had reduced the aggregate force employed from 3,461 regulars and 1,888 helpers, to 2,201 regulars and 412 helpers. *Typographical Union Number 6* has published a statement in which the displacement of labor caused by these machines was estimated at about twenty-three per cent.^{88a} The rapidity of composition is much greater than by the old process if there are not many corrections made in the proof. Instead of 1,000, a compositor now sets 3,700 ems per hour.

The inventive genius of the Americans.—Among other causes of the great mechanical development in America, I have cited the enterprising spirit and the inventive genius of the American people. They are very proud of these traits. A few years ago one of their economists, Mr. Jacob Schoenhof, expressed himself as follows in his interesting book, *The Economy of High Wages*: "If one has made it an object to examine the tools and other automatic machinery and the working methods in the metal and machine industries of this country, and has made parallel observations in Europe, he can hardly help speaking in words of admiration of the genius of our people, who, impelled

^{88a} In his testimony before the Industrial Commission, President Donnelly of the International Typographical Union expressed the opinion that in another year, if present conditions continue, the displacement of labor due to the linotype machine will have disappeared, or in other words, that as many compositors will be employed as before the introduction of the machine. [Tr.]

by causes already discussed, have worked from the most difficult beginnings into fields never trodden before, where a tariff could hinder, but never could help." ²⁰

There is, in fact, no other country in which so many patents are applied for, and where, in spite of the severe preliminary examination, so many patents are granted, as the United States. In 1890, 41,048 applications were received and 26,292 patents issued. In France 7,634 were granted in that year. As is shown in the following table, the number doubled in the twenty years 1870-1890:

PATENTS IN THE UNITED STATES.

Years.	Applications.	Issued.
1850.....	2,193	993
1860.....	7,653	4,084
1870.....	19,171	13,333
1875.....	21,638	14,837
1880.....	23,012	13,947
1885.....	35,717	24,233
1890.....	41,048	26,292
1895.....	40,680	22,057
1899.....	41,443	25,527

On the first of January, 1900, more than 650,000 patents, excluding designs, re-issues, trade-marks, had been issued by the United States, most of which were for improvements on carriages and wagons, stoves, furnaces, harvesters, lamps, boot and shoe machinery, etc. In 1894, 16,372 patents became public property, 12,920 by expiring, 3,812 by default of payment.

All these are not necessarily American inventions; many of them originate in Europe. But the Americans are quick to take up a novelty and like to believe that it originated with them. Nevertheless they have given the world many beautiful inventions, particularly in machinery and electricity, in which they have the reputation, not undeserved, of being supreme. Their system of preliminary examination seems to give more security than the French system.

They promptly patent the slightest improvement, often with the sole object of forcing its purchase by the inventor of the original machine.*

The desire to economize human effort by the use of machinery is shown in the smallest as in the largest matters. In all the large residences and factories of recent construction, the elevator replaces the stairway; almost all commercial houses and many private individuals conduct their correspondence on the typewriter, and the use of the telephone, which saves so many steps and so much time, is far more extensive than in France.

I had scarcely arrived in New York when the extent of this feeling was revealed to me by two trivial incidents. I saw two men sanding a street-railway. One drove the wagon, which was running in the car tracks, the other manipulated a lever which opened and closed a vent through which the sand flowed like water from a watering-cart. The same feeling is manifested on the trains of the elevated railroad, on which the stops are very short. The conductor, I noticed, opened and shut the doors automatically, by means of a lever, and in this way, one conductor was enough for two cars.

Some time ago I found myself at Berne in the company of Mr. Hollerith, the American inventor of an ingenious machine for tabulating statistical returns. He was watching four men hoist stones by turning a large wheel like squirrels in a cage, and he could not get over his astonishment. "I would like to have a camera in order to get a photograph of that," he said; "they will not believe me in America if I tell about it."

* "The patent system may here be cited as a factor in our industrial system. It has been carried to an almost absurd extreme, so that it is not safe for any one to adopt a new method, machine or part of a machine and attempt to use it quietly and without taking out a patent lest some sharp person, seeing it in use and not published, shall himself secure the patent and come back to the real inventor with a claim for royalty." Ed. Atkinson, in "Cotton Manufactures," p. 10, *Tenth Census*.

The American people have the same superb confidence in the superiority of their civilization that they have in their inventive genius. Some time ago *L'Économiste Français* reproduced a passage from a mining journal of Montana, which, wishing to prove that the United States could adopt the free coinage of silver without regard to the decision of Europe, said: "We are the first nation of the globe; to our inventive genius the world owes the steamboat, the telegraph, the telephone. Without us, Europe would be grovelling in the barbarism of the middle ages." "This sentiment, which is a better proof of the national vanity than of the writer's learning, is continually being revealed in the conversation and writings of the Americans; discreetly by those who have visited Europe, brutally by the mass of the people and the newspapers, particularly the newspapers of the far West. I recall having seen at the Centennial Exposition a painting of sixteen scenes, which represented by as many episodes the history of civilization. In the first group man was seen terrified by lightning, by religious superstition, by feudal tyranny, and the tortures of the Inquisition: this was the part of the Old World. In the second group appeared Franklin with his kite, and Professor Henry, of Washington, preparing a telegraphic apparatus (with not a sign of Ampère): this was the part of the New World. Success intoxicates; this young nation has grown so much in a century that it may be excused for believing that its greatness is unequalled.

The inventive genius of the American is perhaps a natural gift, but it has certainly been stimulated by the rate of wages. We shall see in another chapter that for a long while the rate of wages has been relatively high.

The higher the price of labor, the greater will be the effort of the entrepreneur to economize in its use. Moreover, when machinery has made the laborer more productive, it is possible to pay him a higher wage. An increase of one

⁴¹ *L'Économiste Français*, October, 1895.

dollar in the cost of labor distributed over 100 units of product, means an increase of only one cent per unit; distributed over ten units it causes a rise of ten cents in the price per unit. A manufacturer considering the purchase of a machine which will cost \$10,000 and replace four laborers, but which must pay for itself in ten years, will not hesitate to make the purchase in a country where wages are \$500 per annum: here the machine will effect a saving of \$1,000 *per annum*. A manufacturer in a country where wages are \$200 cannot use the machine, however, because it would cause an annual loss of \$200.⁴²

The productivity of the machine.—That machinery makes production more rapid and abundant follows from what I have already stated; these are results not open to controversy; they constitute the very *raison d'être* of the machine. Adam Smith calculated that one man working alone and without machinery could not possibly make twenty pins a day, while in the small pin-manufactory, which he selected to illustrate the advantages of the division of labor, ten men with a little machinery and specialized work could together produce 48,000 pins a day.⁴³ Mr. Schoenhof takes up the same illustration and cites a Connecticut factory in which 70 machines, directed by one machinist, three operatives and one boy, produce daily 7,500,000 pins, all placed in the papers and ready for sale. A hundred years ago, they boasted that in one day a single workman could make 4,800 pins; to-day one man makes a million and a

⁴² The tabulating machine of Mr. Hollerith, for example, was used with economy and success in preparing the reports of the Eleventh Census at Washington. But the employees were paid \$2 and \$2.50 per day in Washington. In Vienna and Rome where wages are much lower, the experience with the machine was not so favorable. It seems, however, that there is a future for this kind of machine where the work to be done is very extensive.

⁴³ Although the factory of which Adam Smith spoke was but "indifferently provided with the necessary machinery," it was better than those depicted in the engravings of the encyclopedia of Diderot and d'Alembert.

half. The difference is typical.⁴⁴ In a recent investigation made by the Department of Labor, it was ascertained that one pound of pins which cost \$5.32 to make by hand, could now be manufactured for a little less than 26 cents.⁴⁵

The manufacture of nails, which presents a certain analogy to that of pins, can be followed with more detail. At the beginning of the century, machines had already begun to be employed in the manufacture of nails, in particular the Perkins machine, invented in 1790, and patented five years later. This machine was propelled by the right hand and foot of the operator, while the nail iron was manipulated by the left hand. It was capable of producing 200,000 nails a day, but a second operation was necessary to make the head. "At the end of the century twenty-three patents had been granted for improvements in nail machines." This number had increased very considerably by 1835, as the manufacture by machinery had developed rapidly and driven out the hand process. The Perkins and the Odiorne machines were soon abandoned, as they cost a great deal to keep in repair. They were both superseded by the Reed machine which was very efficient, especially after it had been perfected by Melville Otis.

But another machine, making nails of wire instead of plate-iron, appeared in 1851. Wire nails, however, did not commence to succeed until after the introduction of three machines from Germany in 1871, and they did not seriously rival the cut nail until after 1883. In 1883 Bessemer steel began to supplant iron in the manufacture of both kinds of nails. At the present day a workman, instead of laboriously propelling one machine, directs the operation of eight without fatigue.⁴⁶ The following figures, taken

⁴⁴ *The Economy of High Wages*, p. 99.

⁴⁵ This is the labor cost only. See *Thirteenth Annual Report of the Commissioner of Labor*, vol. i, p. 63.

⁴⁶ In 1813, 20,900 four-penny iron cut nails (73 per pound) required an expenditure of 236 hours of work, distributed among three workmen, and the labor cost was \$20.24. In 1897, the same

from the publications of the American Iron and Steel Association show the progress and the change that have resulted from these inventions. The production, in kegs of 100 pounds, has been as follows:

Years.	Cut nails.	Wire nails.	Total.
1856.....	1,824,000	.....	1,824,000
1873.....	4,024,000	.....	4,024,000
1886.....	8,160,000	600,000	8,760,000
1890.....	5,641,000	3,136,000	8,777,000
1897.....	2,107,000	8,997,000	11,104,000
1898.....	1,572,221	7,418,475	8,990,696

In 1886 about five per cent. of American nails were made of steel; at the present time almost the whole amount is made of steel, and the quality has improved greatly. Although the total quantity of cut nails steadily declined from 1886 until 1897 the price also fell. If we carry the comparison further back, to the period of the Perkins machine, this fall will be seen to be enormous. In 1818 a pound of nails was worth from 18 to 37½ cents;⁴⁷ in 1892 the price was 5½ cents and in 1893 less than 2 cents.⁴⁸

In Part IV of his *Industrial Evolution*, Col. Wright adduces various proofs of the superior productivity of machinery. In one western manufactory of agricultural machinery, 600 workmen now produce as much as 2,145 formerly produced without the present machinery. In the manufacture of fire-arms a workman could formerly make the parts of one gun in one day; now three men make the parts of 130 guns in one day. Machinery saves 80 per cent. of the labor in the manufacture of women's shoes, 66 per cent. in the manufacture of men's shoes; and one work-

quantity of four-penny nails (209 per pound) required less than two hours work, distributed among 83 workmen, the labor cost being 29 cents. *Thirteenth Annual Report of the Commissioner of Labor*, vol. i, pp. 60, 61.

⁴⁷ *Iron In All Ages*, p. 449.

⁴⁸ The price per keg in Chicago was \$5.49 in 1872; \$3.15 in 1887 and \$1.49 in 1893. See *Annual Statistical Report of the American Iron and Steel Association*.

man with the McKay machine finishes 300 pairs of shoes where he would finish but five, working by hand. A large manufacturer of children's shoes in Philadelphia gave Col. Wright to understand that only one-sixth of the former number of laborers was now required, and prices had fallen about fifty per cent. A few years ago, seventeen good workmen could make about 500 dozen brooms a week; with modern machinery nine workmen can produce 1,200 dozen. To refer to an example used before, the hand-loom used to weave from 60 to 80 picks a minute; the power-loom weaves 180 and the weaver tends from two to six looms, according to the kind of fabric.⁴⁹ The weaver directing six looms produces more than 1,000 yards a week, while the hand-weaver produced about 45 yards. Our grandmothers, with the spinning-wheel, could make five bundles of yarn, nine skeins each, in a week, working 56 hours; one spinner, with two boys helping him, can now spin 55,000 bundles a week on two self-acting mules. On an average every operative tends two and a half times as many spindles now as in 1831. In spinning, the difference is prodigious. In the investigation of hand and machine labor made by the Department of Labor, it was shown that the production of 100 pounds of sewing thread required 2,875 hours of labor in 1870, costing \$86.85, while in 1896 only 39 hours and 17 minutes were required, the cost being \$1.81. In other words, the total labor cost fell from \$86.85 to \$1.81, while the cost per hour rose from three cents to a little less than five cents.⁵⁰

In the investigation from which we have just quoted, a most interesting comparison was instituted between the respective amounts of labor necessary to produce certain articles, with and without the assistance of modern machinery. This investigation is the first, to my knowledge, in which a large number of products⁵¹ has been scientifically

⁴⁹ I did not see any female operative mind more than 8 looms.

⁵⁰ *Thirteenth Annual Report*, vol. i, p. 41. See the same table for the statistics quoted in the immediately succeeding paragraphs.

⁵¹ 672 products or processes are included in the final report.

studied with this object in view, and it affords ample confirmation of what has already been stated concerning the productivity of machinery. It is especially valuable for the light it throws upon the intimate connection between the development of machinery and (1) the further subdivision of labor, (2) the increased rapidity of production, (3) the diminution in the labor time necessary to produce ordinary articles of consumption, (4) and the increase in the price of labor. A few of the results of this investigation are incorporated in the following table. In many instances, the article as produced by machine and hand methods was not exactly the same; the use of machinery usually introduces slight changes in appearance and quality. But careful efforts have been made to eliminate this cause of error, and where the two articles differed, the one made by machine was almost always superior. The original table contains full descriptions of the articles mentioned, which it has not been thought necessary to include here.

PRODUCTION BY HAND AND MACHINE.

Year of production.	Article produced.	Different operations per- formed.		Different workmen employed.		Time worked.		Labor cost.	Cost per hour.
						Hours.	Mins.		
Plows,									
....	Hand.....	11	2	1,180	..			\$54.46	\$0.046
1896	Machine.....	97	52	37	28			7.90	0.21
Wheat,									
1829-30	Hand.....	8	4	61	5			3.55	0.058
1895-96	Machine.....	5	6	3	19			0.66	0.21
Corn,									
1855	Hand.....	15	6	182	40			14.31	0.078
1894	Machine.....	15	23	27	30			4.23	0.15
Tobacco,									
1853	Hand.....	22	4	311	23			23.35	0.074
1895	Machine.....	20	10	252	54			25.12	0.099
Butter,									
1866	Hand.....	7	3	125	..			10.67	0.085
1897	Machine.....	8	7	12	20			1.73	0.14

PRODUCTION BY HAND AND MACHINE—Continued.

Year of production.	Article produced.	Different op- erations per- formed.	Different workmen employed.	Time worked.		Labor cost.	Cost per hour.
				Hours.	Mins.		
	Cheese,						
1840	Hand.....	8	1	75	..	7.50	0.10
1896	Machine.....	14	3	5	24	.85	0.16
	Apples (canned),						
1871	Hand.....	16	95	653	20	35.53	0.054
1894	Machine.....	14	79	234	..	21.58	0.092
	Axles,						
1850	Hand.....	6	2	466	40	56.93	0.12
1897	Machine.....	24	33	43	25	8.20	0.19
	Buggies,						
1865	Hand.....	64	6	200	25	45.67	0.227
1895	Machine.....	72	116	39	8	8.09	0.207
	Wagons,						
1848	Hand.....	37	5	242	..	35.35	0.14
1895	Machine.....	63	75	48	17	7.19	0.15
	Watch movements,						
....	Hand.....	453	14	241,866	10	80,822.09	0.33
1896	Machine.....	1,088	...	8,243	58	1,799.59	0.21
	Coats,						
....	Hand.....	22	6	3,301	43	803.91	0.24
1895	Machine.....	28	71	1,375	20	261.83	0.19
	Cottonades,						
1893	Hand.....	19	3	7,534	1	135.61	0.018
1895	Machine.....	43	252	84	14	6.31	0.080
	Shirts,						
1853	Hand	25	1	1,439	..	180.00	0.12
1895	Machine.....	39	230	188	12	34.21	0.18
	Boots,						
1859	Hand.....	83	2	1,436	40	408.50	0.28
1895	Machine.....	122	113	154	5	35.40	0.23
	Shoes,						
1875	Hand.....	102	1	1,996	40	499.17	0.25
1896	Machine.....	140	140	173	29	54.65	0.31
	Nails,						
1813	Hand.....	3	3	236	25	20.24	0.086
1897	Machine.....	20	83	1	49	0.29	0.13

PRODUCTION BY HAND AND MACHINE—Continued.

Year of production.	Article produced.	Different op- erations per- formed.	Different workmen employed.	Time worked.		Labor cost.	Cost per hour.
				Hours.	Mins.		
Bread,							
1897	Hand.....	11	1	28	..	5.60	0.20
1897	Machine.....	16	12	8	56	1.55	0.18
Carpet,							
1850	Hand.....	15	18	4,047	30	270.01	0.06
1895	Machine.....	41	81	509	1	91.26	0.17
Bedsteads,							
1866	Hand.....	15	5	571	..	141.90	0.25
1897	Machine.....	35	52	41	6	6.07	0.15
Bureaus,							
1866	Hand.....	18	1	443	..	110.75	0.25
1896	Machine.....	21	36	108	40	21.72	0.20
Chairs,							
1860	Hand.....	12	4	114	..	17.10	0.15
1895	Machine.....	44	23	40	57	4.75	0.11
Gloves,							
1895	Hand.....	10	6	25	34	1.80	0.07
1895	Machine.....	16	16	10	23	1.98	0.19
Gold balls,							
1865	Hand.....	5	4	31	24	11.04	0.35
1896	Machine.....	11	11	10	32	1.71	0.16
Marble slabs,							
1852	Hand.....	1	2	6,000	..	500.00	0.083
1895	Machine.....	3	3	11	10	2.39	0.21
Needles,							
1851	Hand.....	18	4	906	..	133.24	0.14
1895	Machine.....	27	57	19	..	3.75	0.19
Doors,							
1895	Hand.....	12	1	541	40	108.33	0.20
1895	Machine.....	20	9	49	50	7.48	0.15
Cigarettes,							
1880	Hand.....	11	27	990	5	97.45	0.098
1895	Machine.....	13	18	148	58	11.48	0.077
Loading ore,							
1891	Hand.....	1	1	200	..	40.00	0.20
1896	Machine.....	3	10	2	51	0.55	0.22

These twenty-nine random citations are convincing upon certain points. With a few rare exceptions, the number of operations increased after machinery was introduced; the number of workmen increased in a still greater degree, because the use of machinery almost invariably causes a further subdivision of labor, and in many instances, a hand tool operated by a single workman has been replaced by a machine which requires a very large number of operators. These effects are well illustrated in the manufacture of plows, in which the number of workmen increased from 2 to 52, in the manufacture of shirts (increase from 1 to 230), buggies (from 6 to 116), needles (from 4 to 57), bureaus (from 1 to 36), nails (from 3 to 83). Even more striking, in view of the increase in the number of workmen, is the diminution in the total labor time. In the manufacture of plows the labor time decreased from 1,180 hours to 37 hours, watch-movements from 241,866 to 8,243, cottonades from 7,534 to 84, women's shoes from 1,996 to 173, marble slabs from 6,000 to 11, and needles from 906 to 19 hours. Tobacco-growing constitutes a striking exception to the general rule. Since 1844 the cost of raising 1,200 pounds of leaf tobacco has increased from \$5.97 to \$30.23, owing to the increase in wages.⁸⁸ On the other hand the production of plows by machinery costs only about one-seventh as much as by hand, nails about one-sixtieth, marble slabs about one-two-hundredths, and the production of watch-movements, an industry that has been revolutionized by machinery, less than one-fortieth. Tobacco and gloves are the only exceptions noted.

Machinery, then, is the principal cause of low prices. With modern machinery, to take a single illustration, 10,000 copies of a sixteen-page newspaper can be printed in 4 hours and 39 minutes, while on the hand-press, the

⁸⁸ It is stated in the report, pp. 92 and 93, that the peculiarities of this return can be accounted for only on the supposition that at the later epoch the nature of the soil and season necessitated much more cultivation. [Tr.]

work would have taken 766 hours of labor time. In this instance, as the Commissioner of Labor remarks, machinery acts as a powerful educational influence by making possible the publication of the penny newspaper. It is to machinery in particular that we owe that phenomenon which, in my book on Political Economy, I had called "the economic paradox;" the phenomenon of falling prices in industries in which wages, profits, and the price of the raw material, are all advancing.

Finally, the results of the investigation justify the conclusion that the general effect of the introduction of machinery upon wages, is beneficial. Out of 29 examples, selected without any reference to this aspect of the question, there are 29 which show an increase, against 11 which show a diminution, in the cost of labor per hour. And in general, the relative increase is much greater than the relative diminution.

Mr. Schoenhof has also gathered a great deal of evidence of the productivity of machines, in his book on high wages. He compares the nail-makers of the English "black country," who make two shillings in fourteen hours, with the Pittsburg nailer who makes \$5 in a day of ten hours. "The English nailer earns from 10 s. to 12 s. a week. If helped by a lad, the combined earnings do not exceed 16 s. or \$3.87. An American nailer, employed in a Pittsburg nail mill, gave me \$5 a day as a fair average of a nailer's earnings, and \$1.50 for the feeder, or some \$30 a week for the nailer alone. But we have here an output of over two tons and a half against barely two hundredweight in England. Twenty times the output against ten times the wages still leaves a comfortable margin of 100 per cent. in favor of the new method . . . and still at his 2 s. a day he [the English nail-maker] does not turn out the work as cheaply by a great deal as this remarkable combination of intellectual and mechanical force does under the American labor system."⁵⁸

⁵⁸ *The Economy of High Wages*, pp. 226 and 398.

Productivity of the laborer.—In support of the thesis that “high wages represent low cost of production,” Mr. Edward Atkinson relates that a German steamer from Bremen having been badly damaged, was docked in New York for repairs. When the owners in Bremen learned the initial costs, they became frightened at the rate of wages and ordered “the steamer back to Bremen for the completion of repairs. . . . But it was too late; the work had begun and it was necessary to finish it in New York. When the final account of the *sum* of wages was sent to Bremen, it proved to be a less amount than the same repairs would have cost in Bremen.” “

From my balcony, while I was in the hospital in Boston, I watched some bricklayers opposite repairing a wall. The bricks were carried to the bricklayer by a hod-carrier, and cleaned below, by a third laborer. It seemed to me that the work would prove very expensive at the rate of wages I knew they were paying. I believe that I was not mistaken in my inference, because they were working at repairs, but it is necessary to avoid hasty generalizations. When I spoke of the occurrence to a French manufacturer in Philadelphia, formerly located at Lyons, he said: “These workmen work conscientiously and quickly; I have done some building here and I do not believe that my expenses were any greater here than they would have been in Lyons.” Afterwards I noticed, in those cities which I visited twice, how quickly the buildings of brick and steel ran up. But there is in every case a limit which is only learned by experience; it is certain that the cost of building has increased in the great cities of the United States.

“They pay you well here, but you have to work hard,” said an Alsatian iron-worker, one of the head workmen in a large iron-works. I was able to verify the truth of this statement almost everywhere, in the hand-trades as well as in the great manufactories. The speed at which the

[“]*The Distribution of Products*, p. 61.

tailors work in the sweat-shops of New York seemed as bewildering as that of the butchers in the Armour packing house, who kill 5,800 hogs a day, or as that of the rolling-mills which make 100 tons of rails in a day. The machine is fast and it sets the pace. In one of his reports Mr. Schoenhof told of an American mill that had changed all its machinery in order to increase the speed from 5,000 to 7,500 revolutions a minute. An English silk-throwster, having read the account, told Mr. Schoenhof that if he installed such machinery in his mills, all his girls would quit. And yet to-day some of the American mills run their machines at a speed of 10,000 or even 13,000 turns a minute.⁵⁵

Even when the machinery plays a secondary rôle the men work quickly and no time is lost. Competition requires fast work. The employer, knowing what to expect, demands the worth of his money, and will not tolerate an idler.

In the Senate Report upon "Labor and Capital," a mule-spinner of Fall River, who had been a member of the Massachusetts legislature, and who was then secretary of a labor organization, said that he had worked in England for upwards of seventeen years, and that in his opinion the cotton-spinner was in a far better condition in England than in America, "because the manufacturers there don't appear to be so desirous of working the men so much like horses or slaves as they do in our State—they don't work at the same extraordinary rate of speed that we do in Fall River. There they give a man a pair of mules, that is, cotton-spinning frames, and they give a man an assistant to work between the mules with him, and also an assistant to work on the back of the mules; but in this country it is a very peculiar fact (but I know it is so, with the exception of one or two places) that however large the mules may be, no matter how many spindles they may contain, the employers will not come down to the same policy adopted in

⁵⁵ *The Economy of High Wages*, p. 39.

England. They insist on one man running the mule with only one little assistant to go behind it. . . . There is not as much labor put upon one man there as there is in our city, and our machinery goes at a higher rate of speed."

"Question: 'Then mule for mule, Fall River produces more cloth?' Answer: 'Yes.'"

In the same investigation a tailor who, as a boy in England, had been successively miner, farm-laborer, and tailor's apprentice, and who was then secretary of the Workingmen's Union in New York, gave it as his opinion that the condition of the miner was better in England than America, because the hours of labor and the amount of work performed in a day are less in England than America. "The same may be said of the carpenters, bricklayers, and plasterers there. For instance, the number of brick to be laid per day per man in New York, is about 500 more than in London, Manchester, Dublin, or Glasgow. I have lived in all these cities. The hours of labor, too, are shorter in England. . . . And I think I can say fearlessly that the [general] intelligence of the skilled mechanic in England is better than the intelligence of the skilled mechanic in America."

Several of the labor-delegates to the Chicago fair also reported that the workmen had a very great deal to do, and had no time to talk or loaf. "In the machine shops," says one, "there is no hurly-burly, no running-about; each workman keeps his place, although the discipline is not harsher than in France."⁸⁶

An old pupil of the *École d'Arts et Métiers* at Aix, who has been working as a machinist in America for several years, gave me the testimony of his experience in this matter. "The American workman," he said, "is conscientious, active, will not leave his place to talk, and knows how to use a machine, which he handles like a mechanic, not like a day-laborer. Thus in making cog-wheels, for

⁸⁶ *Rapports de la délégation ouvrière*, p. 418.

instance, it is not rare to see him alter the drawing he has before him, although he goes to the foreman in this case, who generally decides in his favor. He is given great liberty in the mode of executing his orders. If he invents anything, the employer ordinarily encourages him.⁸⁷ Sometimes the employer buys the invention in order to take a patent out in his own name. Specialization pushed so very far facilitates inventions for the smallest details of production, because the attention of the intelligent workman is constantly fixed upon the same process."

The quality of American workmanship.—The machine does not work like the hand of man. Its power is infinite; its speed, incomparably greater; it has a regularity and precision that the hand and eye seldom, if ever, attain. But its work is monotonously uniform, and lacks the variety, the spontaneity, the meaningful delicacy imparted by the mind of the workman. It remains then to strike a balance between the advantages and disadvantages of the machine, as we have just done with the conditions of labor in America.

In the production of ordinary consumption goods, interchangeable mechanism and articles of great size or weight, machinery has many advantages, and in most cases its superiority is now recognized. At the present time the Americans are better equipped to produce quickly and in large quantities than any other people, and accordingly, I shall not attempt to refute Mr. Schoenhof's thesis: "that, barring slight exceptions, our labor is as cheap in all leading articles, which supply the necessities of life, the clothing, implements, etc., of our people, as the labor of any other nation." True enough, the manufacturers of this same country never cease to repeat that it would be impossible for them to resist foreign competition if it were not for the protection of the tariff. But, then, America is not the only country in which contradictions of this kind occur.

⁸⁷ An example of this tendency, which occurred in the Armour packing house, has come under my own observation.

The machine, however, cannot impart character, or delicate finish—the seal of the real artist. It is just on this side that American industry is weak.

The following opinions were expressed by a French officer who made a special study of arms at the Chicago fair: “Whatever can be made by machinery and in large quantities the Americans make well; but their goods lack finish, particularly hand-finish, which they consider too costly. In some of their works they make good steel because their ore is excellent; but in general their steel is inferior to that of Creusot. Their ordinary rifles are satisfactory and no dearer than in France, but their rifled guns, which require a good deal of handling, cost much more.”

Most manufacturers of machines take great pains with the essential parts, but do not exert themselves to give the rest as high a finish as is liked in France. There are exceptions, however, particularly in hand-tools, which are distinguishable from those found in Europe by slight differences in form. These, whether of steel or wood, are usually of good quality, easily handled, light, highly finished—too much so, sometimes—and well adapted to their work.

Every section of the French labor-delegation commented upon this imperfection of finish, even in articles of luxury.⁸⁸ Speaking of a well-known American silversmith, they remark that he makes some very rich designs for his better trade, ornate in the last degree. No labor, they continue, has been spared in their manufacture, because they must be expensive in order to sell. But for his ordinary trade, they add, he keeps a good deal of cheap, machine-made stuff which possesses little artistic merit. They make the same criticism of the cheap jewelry, with much greater reason.

The artistic bronzes also failed to satisfy them. “They

⁸⁸ They found some goods to which this criticism does not apply: leadwork, shoes, carriages, common silks, for example. It was the taste which seemed open to criticism.

are commercial and very ugly at the same time," says one, "but the manufacture is well understood." In the exhibit of a large zinc manufacturer who makes cheap clocks, many of which are copies of stolen French models, they found that "apart from our models, the work is bad, and has but one aim—low price—which is easily attained when the means of production are so great, and the choice of models from which to select, so wide."

They saw tanneries where, by the use of chemicals, leather was tanned in six months, whereas it takes from fifteen to eighteen in France; but they are doubtful of its durability.⁶⁰ They made the same observation about machine-made shoes,⁶¹ and noticed that the saddlery was not so carefully made as in France.⁶¹ They examined pieces of cloth, and found a great number of knots and other defects, arising from imperfections in the yarn.⁶²

A French manufacturer delegated to study the hat manufacture expressed himself like the workmen: "The Americans," he said, referring to felt hats, "imitate the Germans, and would rather produce large quantities at low prices, than make a better grade of goods at a smaller profit." "The American works for the million," said the shirt-maker, "and his sole object is a cheap article." Nevertheless we learn from the shoemaker that there are exceptions, that the quality of the medium grades of shoes is very satisfactory.

In France furniture-making is one of those trades which, besides producing ordinary goods, is distinguished by the variety and taste of its finer products. In America variety is rare and good taste rarer. Exceptions can be cited, there was tasteful work at the Chicago fair for instance, but in general the wood is cut up, grooved and fitted by machinery; the mouldings and other ornaments are cut out by mechanical saws or routing-cutters, the carved-work

⁶⁰ *Rapports sur l'exposition de Chicago*, p. 319.

⁶⁰ *Ibid.*, p. 390.

⁶¹ *Ibid.*, p. 327.

⁶² *Ibid.*, pp. 292 and 299.

itself is most often rough-hewed by machine. This is manufacturing, not art, and one is not surprised to find a certain unmistakable family resemblance in most American furniture. The French delegates could bring in only one verdict upon this point: "The work is nothing above the ordinary, and requires little hand-labor," they repeat several times. "Everything is superficial, everything sacrificed to the cheap trade and quick returns."⁴³ The glass-blowers, however, make an exception of molded glass,⁴⁴ though the superiority here is due to machinery.

The French manufacturers and workmen saw the factories and the exhibits at the Chicago fair; but they probably saw little of family life in America. Had they done so, they would have discovered that this ready-made furniture is well adapted to the American mode of living. The American people know how to adapt themselves comfortably to their surroundings, like their English cousins, and certain parts of their domestic equipage—the dressing-rooms, for instance—compare very favorably with those of other nations. In works of art there are certain general canons of taste applicable to all styles and by which the latter may be judged. But in the necessities and conveniences of its daily life, every people is free to choose what best suits its own needs.

The verdict of the employer.—Manufacturers regard the incessant improvement and rapid renewal of their plant, the continually enlarging sphere of machinery and the development of great establishments, as legitimate consequences of economic freedom, and see in them an advancement of two of the most beneficent elements of civilization; a cheap and an abundant production. The employer, the consumer and the laborer, they affirm, all realize from them a definite advantage.

We must learn, first of all, as the Americans have already learned, that although the machine begins as the servant,

⁴³ *Ibid.*, p. 146.

⁴⁴ *Ibid.*, p. 167.

it ends in being the master. Enterprising manufacturers adopt new machinery because of the increased profits which it brings, and the more backward manufacturers must then follow suit or be pushed to the wall. The necessity of locking up large amounts of capital in plant may be very disastrous at times, and it is painful to see expensive machinery become obsolete at the end of a few years, while the necessity of sinking more capital becomes apparent. The aspect of the problem was well expressed by one of the special agents of the Eleventh Census:

"So active has been the competition among the different mills, that only those concerns which have been foremost in the adoption of improved labor-saving machinery are large producers at the present time. The destruction of capital in the steel-rail industry during the last decade by the improvements in mechanical appliances has been enormous, costly machinery becoming obsolete long before worn out."⁶⁶

But a machine becomes old-fashioned only when better results are obtained with a new one. This should be a cause for congratulation; the necessity of changing frequently is a proof of rapid progress. The far-sighted manufacturer includes in his general expenses the cost of frequently renewing his plant, and if his calculations have been correct he will not be disturbed over the necessity of throwing aside a machine; it is already paid for, and has, in consequence, rendered the service expected of it. Shall he continue to use it at a loss when he can replace it with another that will yield a profit? What other object than profit has the machine?

Among nations, as among individuals, those who secure the best tools and learn how to use them, are the ones who have the best chance of fortune and success. A country that wishes to enter or remain in the front rank of indus-

⁶⁶ "Manufacturing Industries," *Eleventh Census*, part iii, p. 413.

trial and commercial nations, cannot lag behind in this respect."

The manufacturers consider that the movement has been advantageous to laborers in every way; as vendors of labor, because the general level of wages has risen; as consumers, because they can buy more with the same amount of money; as workmen, because machinery has taken over all the heavy and more arduous work. The laborer, from a mere drudge, working with his muscles, has become a director, working with his mind. He is told that his specialized work is brutalizing, because it is monotonous. Which is more monotonous for the workman: to watch a few automatic looms for ten hours a day, every now and then tying a thread, or for fourteen heavy hours to operate a handloom, moving the batten with his hand and the treadles with his feet?

When an embroiderer of Lorraine makes a stitch by hand, does she develop her intelligence more than the workman of Saint-Gall when he directs a loom that makes several hundred at a time? "It is an almost universal law," says the Secretary of the National Association of Wool Manufacturers, "that the more the machine is made to accomplish, either in speed or in automatic movement, the less there is left for the man to do." He quotes the conclusion of Professor Marshall: "It is the monotony of life, much more than monotony of labor, that is to be dreaded. The social surroundings of factory life stimulate mental activity in and out of working hours, and even those factory operatives whose occupations are seemingly the most monotonous, have more intelligence and mental resource than has been shown by the English agricultural laborer, whose employment has more variety."

"The Parisian delegates think that in several lines it will not be long before the Americans are exporting to Europe. "They will inundate us with their products," said one.

"*Bulletin of the National Association of Wool Manufacturers*, September, 1895, pp. 221, 222.

As more space is required for machinery, work-rooms are enlarged, ceilings heightened, and sanitary conditions improved. With respect to hygiene there is no comparison between the sweat-shop or the cottage of the rural artisan, and the great factory of to-day. And it plainly follows from the study we have made, that the development of machinery and the increase in the size of the industrial unit, has lowered the prices of an immense number of commodities. This is one of the most praiseworthy results of industrial progress, the end of which is the fullest satisfaction of human want.

The verdict of the laborer.—The laborer does not share this optimism. He reproaches the machine with exhausting the strength of the operative, although this only applies to the small number of occupations in which the motive-power is supplied by the workman himself, as with some sewing-machines. [He complains that the continual movement of the machine affords no respite for the operator and enervates him by requiring his unremitting attention]; this complaint is applicable to a greater number of employments, particularly to spinning and weaving, when the operative has to mind more than four machines. [He accuses the machine of transforming the workman into an automaton that knows and does but one thing, and claims that it diminishes the number of skilled workmen, permits the substitution of low-paid labor and thus reduces the general level of wages.] He charges that the introduction of every new machine, momentarily at least, deprives a certain number of workmen of the means of existence and thus renders the condition of all uncertain. Finally he charges the machine with having a definite and unmistakable tendency to intensify the disastrous competition among laborers, by restricting the opportunities for work. These grievances merit examination.

In one of the special reports of the *Tenth Census* Dr. Wright examined four other charges which are frequently made against the factory system: (1) that it "necessitates

the employment of women and children to an injurious extent" and consequently tends to destroy family ties; (2) that "factory employments are injurious to health;" (3) that "it is productive of intemperance, unthrift, and poverty;" (4) that "it feeds prostitution and swells the criminal lists." He has no difficulty in proving that these accusations rest upon error or exaggeration.⁸⁸

At the sixth annual convention of Labor Commissioners held in Indianapolis in 1888, Mr. Powderly, Grand Master of the Knights of Labor, used the following words in speaking of some of the grievances of the laborer: "It is neither profitable nor encouraging to learn a trade when the chances are that some morning the mechanic will awake to find a machine standing in his place doing the work which he performed the day before. Inventions have been introduced so rapidly and extensively during the last ten years that many trades have been almost revolutionized. The rapid introduction of machinery has had a tendency to depress wages; the reduction in wages and the lack of security in workshop management has been the cause of sending many a boy to college who would have gone into the workshop after passing through the routine of the common public school. . . . The colleges and schools are full to overflowing, and soon the professions will be as crowded as the trades are to-day."⁸⁹

A part of these grievances rest upon certain actual facts which are easily brought home to the workingman, but whose remote consequences we conceal from him when they do not support his indictment against the organization of society. [It is wholly wrong to say that the machine exhausts the muscular force of the laborer; on this point the manufacturers are entirely right.] They are not so clearly correct in regard to the strain upon the attention,

⁸⁸ "The Factory System," p. 20.

⁸⁹ *First Biennial Report of the Bureau of Labor Statistics*, Colorado, p. 28.

for although the number of picks that an automatic loom makes per minute would seem to have little influence upon the amount of effort required to tie a broken thread, and the size and speed of a roll-train would appear to have no connection with the labor involved in turning on or off the steam which sets it in motion, workmen are unanimous in affirming the contrary.⁷⁰ The employers are also correct in their assertions that the modern factory, enlarged by the necessities of machinery and governed by strict regulations, is more healthful than the home of the workman, and that the development of the factory system in general tends to improve sanitary conditions. In America, as in Europe, hygienists have applied themselves to the discovery of maladies peculiar to certain occupations and conditions, and they have had no difficulty in finding them, as humanity is not exempt from infirmities. They have rendered a service by evoking reforms, but at times they have led people to believe that they have discovered new evils, when they have merely called attention to old ones.

On the other hand it is certain that when a machine enters a shop, it is going to do the work of several men. The Massachusetts commission which investigated the subject of the unemployed, reported as one cause of idleness "the introduction and improvements of labor-saving machinery, together with the incidental saving of labor due to the specialization of work and the consequent increased efficiency of the individual workman. The precise measure of importance to be given to this cause," the board con-

⁷⁰ In the *Report of the Massachusetts Board to Investigate the Subject of the Unemployed*, p. 55, Prof. Dewey writes as follows *apropos* of the textile factories: "Employers and employees differ as to the difficulty of managing this increased number of machines, some employers saying that owing to the improvements in the machinery the work is no more severe now than it was ten years ago, while the employees without exception assert that it is. The managers, however, generally admit that the work is growing more intense, which is practically all that the employees claim." The same divergence of opinion is noted on page 62.

tinues, "is not universally agreed upon, the effect of its influence has varied in different localities and branches of the trade."¹¹ Taking the shoemaking trade as an illustration, Prof. Dewey finds a diminution ranging from 15 to 30 per cent. in the number of employees. By estimating on the basis of an "ideal making room" he is able to compare the number of laborers necessary to produce a certain quantity of work in 1895 with the number which would have been required "before the introduction and improvement of the so-called great machines McKay, Goodyear, etc." He finds that 28 workmen in 1895 correspond to 44 workmen ten or fifteen years before. This is equivalent to a diminution of more than one-third, and if the comparison had extended over fifty instead of fifteen years, it would have been very much greater. "Some of the labor displaced," says Prof. Dewey, "has been re-absorbed by increased production, but not all; and the ratio of unemployed slowly but steadily increases." But Prof. Dewey was writing during a crisis.¹²

In 1894 the New York Labor Bureau made itself the mouthpiece of the workmen who accuse machinery of reducing the demand for labor. According to the estimate of the carpenters, the reduction was about fifteen per cent., according to the cloth-cutters about twenty per cent., according to the shirt-makers thirty per cent., according to the cabinet-makers thirty-five per cent., and according to the stone-cutters fifty per cent. But these estimates seem to be based on the assumption that the introduction of machinery caused no change in the quantity of products;

¹¹ *Report of the Massachusetts Board to Investigate the Subject of the Unemployed*, 1895, p. 47. The above was written in connection with the boot and shoe industry. Prof. Dewey makes almost the same statement with regard to the woolen industry, p. 61.

¹² Careful comparisons made by the Massachusetts Bureau of Statistics of Labor show that in the boot and shoe industry the average number of employees decreased 2.12 per cent. from 1895 to 1896, but increased 5.2 per cent. from 1896 to 1897, and has been increasing ever since. [Tr.]

they wholly ignore the increase in the demand for labor, consequent upon the fall in prices caused by the use of machinery. Some of the unions admitted that the number of workmen had actually been increased by the introduction of machinery; the piano-makers, for instance, estimated that an increase of twenty per cent. had taken place.⁷³ Upon which basis do their calculations rest? Their results appear too indefinite to be conclusive, although there seems to be no doubt that, in these industries, less labor is now required to produce a certain quantity of goods, than formerly.

In answer to these complaints political economy puts in evidence the general statistics on the subject, which show that the total number of workingmen has always increased from one census to another, that the average rate of wages has been continually rising, and finally that the variation in prices is directly advantageous to the workingman as a consumer. These three facts are incontestable.

And yet the workingman is not reassured by this answer. In most cases he rarely consumes the article which he is engaged in producing, and the fluctuations of the average wage seldom if ever correspond to the fluctuations of his own salary. Moreover, when he is displaced by machinery, he has but little chance of finding employment in the same trade, and if he is able to procure other employment at all, it is only after the most wearisome search. Withal, he has a family to support. Labor is more mobile in America than in Europe, but, in either place the passage from one trade to another is difficult enough, and on both sides of the Atlantic disasters of this nature fall with crushing force upon individual families, and occasionally, upon the employees of a whole occupation. This fact is also incontestable.

⁷³ *Summary of the Twelfth Annual Report of the Bureau of Labor of the State of New York*, p. 15. Out of the 695 unions interrogated, 371 answered that machinery was used in their trades.

Machinery and concentration: the future.—I have indicated the feelings of both workmen and employers towards the transformation which the improvement in machinery and transportation facilities is working in every country of the civilized world—gradually in some countries, rapidly in the United States. The result, as we have seen, is an antinomy, arising from the difference in the standpoints occupied by the two observers, the one being engrossed with the abundance and cheapness of products, the other absorbed in contemplating the elimination of the laborer, and the misery of non-employment. I desire to attempt, if not the reconciliation of the irreconcilable, at least to indicate the path of progress. To do this it is necessary to dismiss particular instances and regard the totality of phenomena and consequences. This is the method of economic science.

In the first place it is important to keep in mind that production and consumption constantly react upon each other, and that between supply and demand there is a certain equilibrium which, while never fixed for any length of time, is constantly being re-established. As a rule the price of a commodity acts as a regulator, stimulating consumption when low enough to attract purchasers, checking production when it becomes too low to be remunerative. The oscillations do not take place without serious disturbances: losses, bankruptcies, crises, on the one hand; on the other, displacements of labor, lack of employment, privation of all kinds. When the locomotive has banished the stage-coach, the innkeeper on the high road finds his occupation gone. When the steamer replaces the sailing vessel, the seaman is not immediately transformed into a fireman; we must wait until the next generation before the human forces of industry can be redistributed. In Silesia and Flanders the substitution of mechanical for hand spinning produced deep and continued suffering.⁷⁴

⁷⁴ Among other testimony see that of Wolowski, *Études d'Économie Politique*, 1848. It seems absolutely necessary to find either remedies or palliatives for these evils.

Over-production is suggested. Some further explanation of this term is necessary. Many examples of excessive production at a given time and market may be cited, the condition resulting in some cases from the fact that consumers will not take the accustomed amount, in other cases from the fact that the market will not absorb the supply at the price demanded. But final and general over-production is an absurdity. Production stops when the demand ceases and it is impossible to fix a future limit for the demand, because one cannot tell how low the cost of production may fall or what may be the increase in the number and wealth of the consumers.

Hundreds of examples might be cited, from Europe as well as the United States, of the absorptive powers of a people whose wants and means of satisfaction are increasing. In 1830 the *per capita* consumption of cotton in the United States was 6 pounds; in 1890, 19 pounds. This was not because of any great difference in the price of raw cotton in the two epochs, but because the cost of manufacturing cotton fabrics had been greatly reduced. In 1870 the Americans consumed 105 pounds of iron *per capita*; in 1890, 283 pounds; in the same interval the *per capita* consumption of steel rose from 46 to 144 pounds. The price of these products, steel especially, has fallen and this has increased their uses.

And yet the flood of products which certain industries pour upon the market tempts one to believe that in these industries the saturation point is being approached, for a time at least. I read in a report upon the Chicago fair that in one year the American manufacturers put out 972,375 dozen finished, and 74,006 dozen untrimmed women's, felt hats—about 12,500,000 felt hats for a population of 63,000,000—to say nothing of the other kinds of women's hats, the silk hats and the immense consumption of straw hats, which are not included. According to Col. Wright, the United States produced in 1890, 179.5 million pairs of

boots and shoes, about 3 pairs for each inhabitant.⁷⁵ And the number of workmen required to provide the population with foot- and head-wear is astonishingly small—in 1890, 3,592 employees in the felt-hat manufacture, and about 194,000 in the boot and shoe industry. There are certainly some industries in which the growth of the production has outrun that of the consumption. Possibly this is what will result in the textile industries from the use of the Northrup loom.⁷⁶ Even when the increase of consumption serves to keep the old number of workmen employed, the growth of the demand for labor is unquestionably checked by the improvements of machinery, and it is with great concern that American workmen see their families deprived of the benefits of a possible growth of demand, by the immigration of foreign labor; immigration is a more important factor in filling the factories than the native birth-rate.

When markets become glutted and goods will not sell, it means only a loss of interest to the capitalist, but to the workman it means lack of work and danger of starvation; the difference is great. The laboring class appreciates its

⁷⁵ *Industrial Evolution*, p. 171. The report of the French commission (p. 42) gives the amount at 240 million pairs and in addition 10 million pairs of rubber shoes.

⁷⁶ As a matter of fact there are industries both in Europe and America in which the number of employees is diminishing. In some cases the production suffers a positive decline, as for example the production of wheat in England. In some, prices decline while the production remains stationary, and the industry is forced both to improve its processes and dismiss some of the operatives; this is illustrated by the iron industry in France which, according to the *Statistique de l'industrie minérale*, produced an output worth 524,500,000 francs and employed 64,000 workmen in 1881, while its output was worth only 424,000,000 francs and it employed only 59,700 workmen, in 1893. In other cases the production has been increased, without enlarging the labor force, by the invention of new machinery and new processes, the principal result here being a fall in the price of the commodity. Thus, in the sugar-refining industry, the number of employees was reduced 11 per cent. and the wages (of the male employees) about 6½ per cent. from 1881 to 1894, while the total quantity of sugar doubled and the price fell more than 50 per cent.

own troubles keenly enough; the scientist and the philosopher should take up the problem and strive to ameliorate the suffering involved in this transformation.

In the past, American as well as European workmen have resorted to violence, and have destroyed the obnoxious machinery. To-day, I trust, experience has shown them the uselessness of such measures," although they are still searching for means to safeguard their interests.

Unfortunately the people know little history. If they paid more attention to the experience of the past, they would be less disturbed about the future. During the last half of the present century there has undoubtedly been an enormous increase in the productivity of machinery, and products have multiplied more rapidly than consumers. But at the very beginning of this period the cry that machinery generates disaster by causing overproduction was already familiar. Bastiat, for instance, wrote as follows in attempting to expose the slender foundation upon which this opinion rested: "If a few laborers are temporarily thrown out of work by the introduction of machinery, we look askance at such progress, treat it as a disaster, and take refuge behind absurd but specious catch-phrases: 'production is superabundant, we perish with plenty,' 'the power of producing has outgrown the ability to consume.'" ⁷⁸

Long before Bastiat, Sismondi talked about the "super-saturation of commerce" (*engorgement du commerce*) and "the number of manufacturers, who pour upon the market infinitely more produce than the people can buy." ⁷⁹ Sis-

⁷⁸ At least the more thoughtful workingmen. Mr. Stevens, the Chief of the New York Labor Bureau, wrote me in 1894, that the more enlightened compositors believe that although the introduction of the type-setting machine caused temporary distress, the production of books, magazines, etc., will be greatly increased in a few years, and that this will be attended by a rapid growth in the demand for their labor. The pessimists, of course, do not share this belief.

⁷⁹ *Harmonies Économiques*, p. 73.

⁸⁰ *Nouveaux Principes d'Économie Politique* (1827), II, 326, 402.

mondi denounced concentration and the progress of machinery as causes of an immoderate production, and affirmed that "every laborer in England would be discharged if the manufacturers could save five per cent. by putting machines in their places." To-day England has infinitely more manufactures, more products, and more machines, which effect economies much greater than five per cent. on the basis of the cost of production in 1826; yet she has many more workingmen and the wages of these have been steadily rising. Since time has decided in favor of Bastiat and the pretended glut of 1850 has not prevented our generation from consuming much more in 1895 than was produced in 1850, is it necessary to despair of the possibility of producing and consuming even more in the next generation?

What would the mediæval copyists, who wrote probably not more than four pages an hour, have thought if some one told them of a machine that would produce in an hour the contents of twelve million manuscript pages! The scribes have disappeared, it is true, but printing gives employment to far more hands than ever found occupation in the work of copying manuscripts, for the simple reason that more people know how to read.

The chief of the Bureau of Labor of New York makes the following suggestive comparison: "The United States and Great Britain are the greatest owners and users of machinery. Compare the general condition of the workers of these two nations, with that of any other country on the face of the globe, where machinery is unknown except in its most primitive form. Where lies the superiority? It seems almost a paradox, but it is a truth, that machinery conduces to employment and to betterment; not only increasing production, but multiplying the chances of employment and incidentally the consumption of products."⁸⁰

⁸⁰ *Eighth Annual Report*, p. 685.

American census statistics show that the proportion of laborers to the whole population has been increasing during the very period that the machine has been taking the most complete possession of production. From 1860 to 1890 the population doubled, but the number of persons employed in the manufacturing industries nearly tripled (an increase of 172 per cent.), and in the same interval the motive-power increased fourfold.⁶¹ Invention has created new industries and occupations, such as photography, telegraphy, railroading, electroplating, the manufacture of bicycles, etc., and has given much more work than it has taken away. Even in those ancient trades which have been transformed by machinery, the progress of consumption has in most cases maintained the demand for labor.

This progress has not been accomplished with a single stroke, nor has it been regular and synchronous in the different branches of production; it has been accompanied by general and partial crises. Each branch has its history; some have languished, some have withered, but it is by the whole tree that we must judge the growth. One cannot revive a dead branch by cutting the trunk. What the chief of the Bureau of Labor of New York stated with regard to England and the United States, statistics prove to be true of every great industrial region of the world. Thus

⁶¹ In England the motive-power increased from 1,290,000 horsepower in 1850 to about 9,500,000 in 1890, and this did not prevent the population from increasing from 27,700,000 to 38,100,000. In France the population was 34,200,000 in 1841 and 38,300,000 in 1896; the aggregate horsepower was 56,000 in 1840 and 5,734,000 in 1893. These figures are scarcely comparable because statistical methods have changed, but they indicate that the introduction of motive-power equivalent to 100,000,000 laborers has not prevented the growth of the laboring classes in a country whose population is reputed to be stationary. From 1836 to 1891 the population was increased by 4,000,000 in the fourteen departments which have the most steam-machinery, and these comprehend the departments in which the increase of machinery has been greatest. In the fourteen departments which have the least steam-machinery the population has slightly decreased since 1836.

in France, where the population increases very slowly, there has been a rapid increase in those departments which contain the most steam-machines, because the machine creates a demand and attracts labor.

There can be no social evolution unaccompanied by injury to some one. The forces which impel industry toward the use of machinery and the factory system, seem irresistible to me, because their objective point is cheapness, and cheapness is the chief desideratum of the consumer, and one of the goals of economic progress. It is Utopian to believe that we can return, by any modification whatsoever of the social order, to the régime of domestic industry. Domestic industry as an ideal has been shattered by the sweating system.

A French resident of Philadelphia who is very familiar with economic matters said to me that a careful examination of the state of affairs in America revealed an astonishing growth of concentration and large manufactures. *C'est là qu'est l'avenir*, he said. I agree with my friend, but at the same time I am convinced that the growth of the industrial unit has natural limits, and that there will always be a place for the petty merchant and the small manufacturer.

Since the Civil War the manufacturing industries of the United States have moved boldly and rapidly in this direction and they have become very powerful. "They progress, and rapidly," wrote a large manufacturer⁸² in a report upon the Chicago Exposition, "and in many respects they are ahead of us, not from the scientific, but from the practical point of view." Concentration will be more intense in the next century, and the machine, with a still more important place to fill, will continue to stimulate it. It is towards concentration then, and perfected machinery, that the entrepreneur, the wage-earner or the economist must look, who would catch a glimpse of the future. He who

⁸² Mr. P. Arbel.

contemplates practical reform must first accept this inevitable movement of industry which cannot and should not be blocked, and to which it would be unfortunate to offer more than the slightest resistance in the shape of artificial legislative measures. For this reason I have thought it best to show the inevitable trend of American industry, before beginning the study of the condition of the laborer.

CHAPTER III.

LABOR LAWS AND TRADE REGULATIONS



Labor legislation in Europe.—The regulation of industry by public authority is very ancient. In the middle ages the sovereign or feudal lord invested with his sanction the statutes passed by the guilds, and thus assured to the merchants and craftsmen the monopoly and regulation of industry in certain localities. During the seventeenth and eighteenth centuries manufactures began to be introduced into France, and these were protected by the grant of letters patent conferring special privileges upon favored entrepreneurs. Ordinances regulating production were also promulgated, in order to guarantee the quality of the products, much as the guilds did, or attempted to do, in their sphere. Similar methods of regulation were common in most of the European states during this period.

In France all the regulations of the ancient régime were abolished by the Revolution of 1789 and replaced by a new industrial code founded upon the fruitful principle of the liberty of labor. In England, a gradual abolition of the restrictions upon labor had been going on for more than a century, caused by the development of machinery and the factory system. In most of the countries of continental Europe the emancipation of labor was delayed much longer, until gradually effected by the progress of wealth and ideas during the nineteenth century.

Factories multiplied rapidly, but as the machine became more and more important, and the people crowded to the factories, the anxiety to protect the manufacturer gave way to an anxiety to defend the laborer against the evils of

the factory system. England was far in advance of other nations in the development of large manufactures and it was the English Parliament that first enacted into law the sentiments inspired by the evils of factory life. The oldest laws of this nature were passed in 1801, 1803, 1819, 1825, 1831 and relate to the health and morality of workmen employed in the cotton and other factories. The law of 1824 legalized strikes and trades-unions; that of Oct. 15, 1831, required wages in certain industries to be paid in money. To-day England possesses a voluminous code of laws relating to trades-unions, payment of wages, suits between employers and employees, work in the mines, accidents, employers' liability, work of women and children, sanitation, inspection of factories and workshops, arbitration, etc. The act of 1878 relating to factories and workshops codified and substantially re-enacted the preceding laws bearing on this subject, but it was repealed by the act of July 6, 1895, which considerably enlarges the duty and authority of the inspectors as well as the number of establishments subject to inspection. At different times and with different degrees of determination, the other European powers have adopted the same industrial policy. In France the first law upon child-labor in factories was passed in 1841.¹

The United States have followed in the footsteps of England. Under the influence of their democratic constitutions they have, during the last twenty-five years, gone quite as far as England in the regulation of labor, and in certain points relating to the inspection and regulation of factories,

¹ A law upon unsanitary establishments had been passed in 1810. The law of March 22, 1841 was very inadequate, and was succeeded by the law of May 19, which in turn was replaced by the law of November 2, 1892. In Prussia the oldest law upon child-labor in the factories dates from 1839. It was superseded by the imperial law of July 17, 1878. Child-labor has been regulated in Switzerland since the law of March 23, 1877; in the Low Countries since the law of September 19, 1874 (superseded by the law of May 5, 1889); in Spain since the law of July 24, 1873.

they have gone even further. The freedom of labor, however, which is everywhere a constitutional right, has been steadily maintained.

I.

LABOR LEGISLATION IN THE UNITED STATES

Factory laws of Massachusetts.—Massachusetts must be mentioned first as her laws have served as models for many other states. As early as 1836 the instruction of working children was made compulsory in Massachusetts and in 1866 child-labor was regulated by law, a commission being appointed in the same year to investigate the general question of the hours of labor. In 1869 the first bureau of statistics of labor in the United States was established in Massachusetts. In 1874 the hours of female labor were regulated, and this was followed in 1877 by the first law for the general inspection of factories. The Massachusetts laws are contained in the Public Statutes of 1882, and in a series of subsequent acts.² Almost every year has brought to light subjects for new restrictive legislation. At the present time Massachusetts has a corps of inspectors appointed by the Governor, who form part of the police department, and in certain cities there are special inspectors. All of these have authority to enter workshops at any time.

The construction of new factories is under the supervision of these inspectors, and the plans have to be submitted to them. All openings of elevators, hoistways, etc., must be protected by trap-doors or self-closing hatches; elevators must be regularly examined, and inspectors are authorized to close them, when dangerous, by posting a prohibitory placard at the entrance. Workrooms must be kept clean

² See *Second Special Report of the Commissioner of Labor*, 1896, pp. 428-483. By a coincidence which is easily explained Col. Wright also selects Massachusetts as an example in his *Industrial Evolution*. When this chapter was written I had not become acquainted with that work.

and well ventilated. Detailed regulations relating to plumbing and drainage have been enacted, and a sufficient number of toilet rooms must be provided, with separate accommodations for men and women. If in the judgment of an inspector the factory is not kept in a cleanly state, or if nuisances are created by effluvia from drains, etc., it is his duty to order, and the duty of the owner or occupant to make, the necessary changes. Upon the refusal or neglect of the latter to comply, it is the duty of the inspector to notify the Board of Health, which in turn must enforce the law. No machine, except a steam-engine, may be cleaned while running. The use of whistles, bells, etc., as signals to employees, is prohibited unless a permit has been secured from the municipal authorities.

There has been a great change in the appearance and condition of factories in the last fifty years, although the change has been wrought by machinery and public opinion, rather than by law. The old-fashioned factory was small, the ceiling low, the ventilation and lighting very imperfect; in winter, heat was supplied by stoves. At present, the size of the machinery necessitates larger shops and higher ceilings; steam-engines are so cheap that waterpower may be dispensed with, and in consequence the manufacturer is not forced to locate in some narrow valley of the mountainous districts. In America, as in Europe, factory life has become healthier and happier.

Precautions against fire.—Inspectors are particularly directed to see that sufficient precautions are taken against fire. The doors of workrooms cannot be locked during working hours and, when required by inspectors, must open outwardly. The use of wooden pipes for hot-air and steam is prohibited and no metal pipe may be placed nearer than one inch to any woodwork without being protected by casings of some incombustible material. Every story above the second must be provided with apparatus for extinguishing fire. Where steam machinery is used, communication must be established between the engine-room and each

room in which a machine is placed. In Boston the fire commissioners have the right of inspecting boilers and engines, and of prohibiting their use, if examination seems to warrant such prohibition. Every boiler must be provided with a fusible safety-plug of stipulated dimensions.

Fire is a very redoubtable enemy in the United States, and the law in regard to fire-escapes, not only in Massachusetts but in most other states, is very strict.^{2a} All factories, hotels and apartment houses must have exterior iron escapes, provided with landings and railings, easily accessible from the windows of the higher stories, and reaching to the ground. New buildings are provided with these escapes, while they are added to old structures as the police demand. Certain quarters of the large cities, particularly in New York, present a very peculiar appearance. In addition to the factories and stores there is a large number of tenement houses, all with great red-brick walls monotonously dotted by rows of bare windows, along which balconies creep, connected by queer iron ladders painted black or white, and inclined at an angle of forty-five degrees or more.

The precautions are not unnecessary, for the papers continually contain accounts of fires. The regular level premium insurance companies—there are in addition about 650 mutual insurance societies—paid out \$146,704,582 to policyholders in 1899.³ It is true that about nine-tenths of the buildings in the suburbs and country are constructed of wood.⁴ But in the cities the buildings are generally of brick, and I have passed through scarcely a single city with-

^{2a} Twenty-eight states have now passed laws making provision for proper fire-escapes. Report of the *Industrial Commission on Labor Legislation*, p. 100. [Tr.]

³ In France the insurance companies (excluding mutual or assessment societies) paid out about 50,000,000 francs annually from 1878 to 1888.

⁴ Some idea of the proportion of wooden houses may be obtained from the statistics of school buildings. In 1891 out of 12,072 school-houses in the State of New York, 10,171 were of wood.

out seeing the ruins of some fire. One recalls the terrible Chicago fire of 1871, which destroyed 17,500 houses and caused a loss of \$200,000,000. When I visited Chicago in 1876 I saw whole blocks entirely bare or covered only with blackened beams. In 1893 when I visited Fargo, North Dakota, 150 houses had been burned two months before, but 50 of them had already been rebuilt to the second story and the principal street was so encumbered with building materials that a carriage could not pass through.

At first I was very much astonished that houses of brick and iron should so frequently take fire, but I very soon noticed that the interiors were almost wholly of wood and that the brick walls were so very thin as to offer but little resistance. Under the influence of the heat the iron framework and floors expand, twist and dislodge all the masonry. I have seen houses, particularly in Chicago, of which nothing remained but twisted heaps of blackened iron resting on a pile of ashes.

Laws relating to factory employees and accidents.—I now return to the brief analysis of the laws of Massachusetts; I shall speak further on of the regulation of the labor of women and children. Five legal holidays have been created, and in 1887 a sixth, Labor Day, was added, which comes on the first Monday of September.

“Whoever on the Lord’s day keeps open his shop, warehouse or workhouse, or does any manner of labor, business, or work, except works of necessity and charity . . . shall be punished by a fine not exceeding fifty dollars for each offense.” Among the persons and industries excepted are transportation, the printing of newspapers, the making of butter and cheese, the sale of bread and of milk, and those people who observe the seventh day as the Sabbath.^a

Every employer who requires notice from persons in his employ, under forfeiture of wages, of their intention to leave his employ, must give a similar notice, under equal for-

^a Acts of 1895, chapter 434.

feiture, of his intention to discharge them. Every corporation or joint stock company that brings an alien laborer into the commonwealth must give bond of \$300 that such employee shall not within two years become a public charge. Every manufacturing, mining, quarrying, mercantile, transportation, etc., corporation must pay their employees weekly the wages earned to within six days of the date of the payment, under penalty of a fine not less than \$50 and not more than \$100.* Complaints of violation of this law must be made within thirty days and they can be brought by the employee, the chief of the district police, or by any inspector of factories. If the corporation fails to appear after being duly served with process, judgment shall be rendered for the plaintiff. The stockholders of a corporation are jointly and severally liable for wages due to its operatives for services rendered within six months before the demand, and in administering estates wages and salaries are preferred debts, ranking immediately after state and federal dues.

In the textile manufacture no weaver may be fined for imperfections in his work unless the imperfections are plainly pointed out to him and the amount of the fines are agreed upon by both parties concerned,

All work performed by a married woman is presumed to be performed on her separate account, and wages must be paid to her in person unless there is an express agreement to the contrary. Suitable seats must be provided for female employees, which the latter are authorized to use when not actively engaged. This measure was vigorously debated before its first adoption, but it has since been copied in almost every state.⁷

Who should be held responsible for accidents incurred in

* By the amendatory acts chapter 481 of the acts of 1898 and chapter 247 of the acts of 1899, this law has been extended so as to cover practically all manufacturing establishments, contractors of all kinds and persons engaged in the building trades or in public works. [Tr.]

⁷ Acts of 1894, chap. 508, sec. 30.

the performance of work, the employer or the fellow-laborer? The question is still unsettled, in America as in many states of Europe, but the tendency of statute law and court decisions in the United States is to establish, except in special cases, the responsibility of the employer.⁸ Nevertheless, the employee must assume the risks common to his employment, and he still remains responsible for his own acts and for injuries received from defective machinery which he has continued to use, knowing it to be defective. On the other hand, the employer becomes responsible if the employee could not know the risk, or if he (the employer) has been forewarned of the danger and has not warned the employee.

When the victim of an accident is not subject to the orders of the master of the workman who has caused the accident, the employer is generally held responsible; but when the injured party is a fellow-servant of the same master, the old common law ordinarily exonerates the latter on the grounds that fellow-workmen should look out for the safety of one another.^{9a} The courts of Pennsylvania have

⁸ See Stimson, *Handbook to the Labor Law of the United States*, p. 160.

In France the whole subject of employer's liability has been regulated by the law of April 9, 1898. Indemnity for injuries received in the course of employment must be paid by the employer, the indemnity being graduated according to the gravity of the injury and the wages of the workman, and being limited to employees whose wages do not exceed 2,400 francs a year. In case of death, the wife, children and parents of the victim are entitled to a pension. [In the United States, general acts defining the liability of employers have been passed in North and South Dakota, California, and Montana.]

^{9a} Eleven states and territories have passed statutes "which do away with the fellow-servant doctrine entirely, making the employer liable in all cases of accident, whether caused by fellow-servants or not, unless primarily caused by negligence, or by contributory negligence of the person injured." Five other states attempt to define who are fellow-servants, and one territory and five states have enacted that "no person shall be deemed a fellow-servant who is in position to give orders to the person injured." In some states these laws apply only to railroad employees. *Report of the Industrial Commission on Labor Legislation*, pp. 77-82. [Tr.]

for many years refused to make the employer liable when a workman is injured through the carelessness of another workman, taking the position that employees will be more cautious if their mistakes are not charged to the employer. Publicists have repeatedly pointed out the absurdity of denying damages to a brakeman for injuries received from a switchman who may live a hundred miles from the brakeman, and be totally unknown to him. Several states have passed statutes making the employer liable in such cases.

In Pennsylvania the employer is of course held responsible if he has not taken all the precautions required by law. But "in the absence of definite proof of some negligence which directly or naturally results in injury to the employee, the accident is regarded as one of the hazards of the employment of which the servant takes the risk and for which there can be no recovery."⁹ The liability of the employer is increased where the employee is a minor, but it is shared by the parent or guardian who permits a child to accept dangerous work. If a machine is found to be defective, the employee must notify his employer and if it is known that the latter was warned or if he should have known of the defect himself, he is held liable. An employee is not compelled to stay at work in a dangerous place, but if he does remain it is at his own risk. A workman injured while riveting a boiler through the incompetence of his helper, can hold the employer responsible for the consequences of the incompetency.¹⁰

⁹ *Report of the (Pennsylvania) Bureau of Industrial Statistics*, 1883, p. E 2.

¹⁰ According to Mr. Bolles the courts have so firmly established the principle of the irresponsibility of employers for their acts of negligence, that damages against them are rarely obtained. Mr. Bolles does not wholly approve of this doctrine, but in view of the fact that the liberty and immunity of employers have constituted a powerful industrial stimulus, questions whether the doctrine has not been more profitable to the laboring class than detrimental to individual laborers. See *Reports of the (Pennsylvania) Bureau of Industrial Statistics* for 1890 and 1893.

Alabama¹¹ was the first state to go as far as England in defining employers' liability. When a servant or employee receives a personal injury in the service of a master or employer, the latter is liable to damages as if the employee were a stranger, whether the injury be caused by reason of any defect in the plant or machinery connected with the business, or by the negligence of any person having superintendence or the right to issue orders intrusted to him, provided the injury resulted from having conformed to these orders; or whether it be caused by the act of any person done in obedience to the rules and regulations established by the employer. But the employer is not responsible if the employee knew of the defect or negligence and failed to notify him. However, the responsibility does rest upon the employer if he was already aware, or if by taking proper precautions he would have been aware, of the defect which caused the injury.

In 1887¹² the legislature of Massachusetts enacted a law very similar to the one passed in Alabama. In 1890 this law was amplified upon the showing of a commission that out of ten cases involving the law of 1887, only one employee had received any compensation. On the other hand, statistics published by the railroads show that out of eighty-three deaths, seventy-seven resulted from the negligence of the victim.¹³

The present law of Massachusetts requires employers to send to the district chief of police written notices of every accident in their establishments, whenever the accident results in the death of an employee or so injures him that he cannot return to work within four days after the acci-

¹¹ Code of 1886, part iii, sec. 2590.

¹² For this law and the Alabama statute mentioned above, see the *Fifth Annual Report of the Commissioner of Labor*, pp. 48-52.

¹³ See among other documents the *Eleventh Annual Report of the Bureau of Statistics of New Jersey*, "Employers' Liability," and the *Report of the (Pennsylvania) Bureau of Industrial Statistics*, vol. xix, "Liability of Employers."

dent. When an employee is killed or wounded in the exercise of his work and the cause can be shown to lie in any defect of "ways, works or machinery," or in the negligence of a co-employee, damages may be recovered which shall not exceed \$4,000 in cases of personal injury, nor \$5,000 when death results and the action is maintained by the widow or relatives dependent upon the deceased for support. Notice must be given the employer within thirty days, and action commenced within one year, of the date of the accident.

I shall stop at this point, as it is not my intention to write a legal treatise and the tendencies of the court decisions in the various states are exceedingly diverse; a mere indication of the law and its interpretation is sufficient here. Most of the states have passed a law nullifying contracts between employees and employers in which the former renounce their right of compensation for personal injury. But none of them have furnished statistics from which to judge the results of this legislation.

Laws upon the payment of wages.—How often and in what form should wages be paid? Weekly payment seems best, because the temptation to extravagance is less when expenditure closely follows receipt, and this would satisfy the labor unions. However, there is no reason to believe the weekly payment indispensable, and in certain industries it is very inconvenient to pay more than once or twice a month. The important thing is to have the payments regular and not too far apart.

And in manufactures, if not in agriculture, it is also important that wages be paid in current money, as the labor party demands. For the laborer it is one condition of his freedom. This mode of payment does not exclude certain forms of remuneration in kind, such as coal to miners, nor even company stores, where the works are situated at a great distance from commercial centers. But the direction of these stores requires great prudence and presents difficult problems. If the management sell at wholesale

prices, it is of course advantageous to the employee, but where a profit is charged there is usually a sort of dishonest speculation and an underhand confiscation of wages. Cash payments ought to be the rule from which no deviation should be made except in urgent cases: to do otherwise is to charge the laborer interest without permitting him to contract a debt. An advance made by the employer, whether it be of money or in kind, is a bond of servitude. Payments in kind can also become oppressive.

"Now, we claim," said a stone-cutter, in his evidence before the Senate Committee on Education and Labor, "that there is more than one way to rob the workingman. One way is by paying him but little for his labor. Another way is by paying him when they please to pay him, keeping him waiting one, two, or three months behind, and actually working on his money; now this state of things existed in Rhode Island, in Connecticut, and in the State of Maine; hence such oppression led the men to organize together in a band. . . ." ¹⁴

According to an old custom which lasted in many places, New England, for instance, until after the middle of the present century, laborers were paid off at the end of the year both in agriculture and manufactures, the employer making advances before the day of settlement, according to the needs of the laborer. ¹⁵ Strangely enough the laborer was charged interest to the end of the year on these advances. ¹⁶ Among other concessions won by the laboring

¹⁴ *Labor and Capital, Investigation of Senate Committee on Education and Labor*, 1885, vol. i, p. 662.

¹⁵ F. A. Walker, *The Wages Question*, p. 123. In 1886 the Commissioner of Labor of Connecticut made a special report upon this question, in which he recites the arguments *pro* and *con*, and gives the usage in various states. He concludes that the money payment is preferable for the laborer, that weekly payment is not as difficult as has been supposed, though exceptions have to be admitted, and that in no event should wages serve as a security for debts. *Second Annual Report of the Bureau of Labor Statistics of Connecticut*, p. 10.

¹⁶ General Walker explains this anomaly by the scarcity of capital.

classes between 1847 and 1860, Mr. McNeill cites the substitution of weekly and monthly, for quarterly and semi-annual, payments.¹⁷

Inspired by the English law of 1831, many of the legislatures have recently passed laws which require wages to be paid frequently and in current money. New York in 1889 and 1890, and New Hampshire, Illinois and Rhode Island in 1891, made weekly payment obligatory by law; in Tennessee, Missouri and Wyoming certain industries are required to pay at least once a month; in 1896 fourteen states had made weekly or fortnightly payment obligatory.¹⁸ Whether these laws are not unconstitutional as infringements of the freedom of contract, is a question which has not been definitely decided.^{19a}

¹⁷ *The Labor Movement*, p. 123. Most of the states have made unpaid wages preferred debts in cases of bankruptcy. In the states in which coal-mining is an important industry, the question whether miners should be paid according to the amount of screened or according to the amount of unscreened coal, has given rise to much legislation.

¹⁸ See Stimson's *Handbook*, p. 87. These laws are not exactly the same in the several states, applying only to mining companies in some states, and in others to corporations only. According to the different laws, payment must be weekly, semi-monthly or monthly; it must be in money or it may be in checks; in Kansas, it may be in orders upon stores, provided the employer is not interested in such stores. The Rhode Island law which applies only to corporations has been upheld. In all other states in which these laws have been tested, except Massachusetts, they have been held unconstitutional when applied to natural persons. Mr. Stimson says, p. 97: "Such laws are probably valid only as to corporations, in states which have a provision that their charters may be amended, *except* in those states which, like Illinois, provide that it shall only be done by general law." Laws regulating the medium of wage-payments have also been declared unconstitutional in several states. (*Ibid.*, p. 105.)

^{19a} Twenty-two states have passed laws requiring wages to be paid weekly, bi-weekly or monthly. In Connecticut only 80 per cent must be paid weekly, in Maine the law applies only to employers having ten or more employees, in a few states it applies only to corporations, and in others it applies only to mining and manufacturing industries. Weekly payment laws applicable to all classes of labor have generally been held unconstitutional, except in Mas-

In certain parts of the West and South the custom of paying at long intervals is still in vogue. It is here that one finds the "company store," stocked with clothing, food, and all kinds of provisions for the use of the employees. On pay-day the men are paid partly in money and partly in "trade checks," good only at the stores of the company, and it is customary to charge a profit on the goods with which these checks are redeemed. In one case, not the worst which was called to my attention, this profit exceeded four hundred per cent., the company thus withdrawing with one hand what it gave with the other. These stores, known in Pennsylvania as "pluck-me stores," and in fact the whole truck system have the additional vices, when the employer is accommodating, of inviting extravagant expenditures on the part of the laborer and of binding him to the employer by debt, like the Mexican peon. "In very many instances," says Col. Wright, "the workmen of such an establishment never saw any money from one year's end to another. The pay for the goods purchased was secured by the pay-rolls, and the debts and credits left no margin on pay-day."¹⁹

In a report to the *Ministre des Affaires Étrangères*, M. Bruwaert, who was then consul-general at Chicago, expressed himself as follows: "Abuses are still common. A workman may not be paid until the last of August for work done in the first part of July; this is the practice of a number of mining companies, for instance. If the workman has need of a payment on account in the interval, he is paid with due bills redeemable in two years. Both the company and certain friends of the company discount these

sachusetts, and similar laws applicable only to corporations or special industries, while usually sustained, have been declared invalid in Pennsylvania, Illinois, Missouri, West Virginia and other states. *Industrial Commission Labor Legislation*, pp. 55-57. [Tr.]

¹⁹Carroll D. Wright, "Value and Use of Labor Statistics," *Engineering Magazine*, Nov., 1893, p. 139.

bills, and the workman must either discount them in this way, at a loss of twenty-five per cent., or present them at certain specified stores which receive the bills as cash but charge about fifty per cent. extra for goods furnished on the company's account."²⁰

The laws which have been passed to prevent this practice in Illinois, Washington, Pennsylvania²¹ and elsewhere, seem to have had little real efficiency. Managers evade them by running stores under other names.

In 1875 Mr. Gunton found the truck-system in operation in many of the small towns of New England, except in Vermont. Many families, he says, had been in debt ever since their arrival, and others never touched a dollar in money. In his opinion the system was still in common usage in the central part of the country as late as 1893, and indeed, still existed in certain parts of the East.²² The census of 1880 showed that out of 773 manufacturers who replied to the question concerning the mode of payment, twenty-two per cent., situated mostly in thinly-settled districts, paid partly in kind. In spite of a multitude of protective laws, the settlement of disputes concerning wages is often difficult in the United States. Wages are not preferred debts in all states, there are no special courts for these questions, and justice through the regular channels is too costly for the workingman. In most states wages are protected either in whole or part against attachment for debt, although in some states the debtor is exempt only when he has a family.

²⁰ *Recueil de rapports sur les conditions du travail dans les pays étrangers adressés au Ministre des Affaires Étrangères*, p. 80.

²¹ See Stimson's *Handbook*, p. 109. [In Maryland (applicable to mines and railroads only) and in Pennsylvania and Illinois (applicable to mining and manufacturing corporations only) employers have been forbidden by law to run general supply stores. But in Illinois and Pennsylvania the laws have been declared unconstitutional. *Industrial Commission . . . Labor Legislation*, pp. 59, 60.]

²² Gunton, *Wealth and Progress*, p. 103.

II.

THE WORKING DAY

Origin and history.—At present the agitation for a shorter working day is perhaps even more active in America than in Europe. In studying the question it is well to distinguish, as far as possible, the fact, the theory and the law. The fact consists of the actual length of the working day and the efforts made to reduce it; the theory consists of the claims of the labor party and the objections of employers; the definite action taken by governments to settle the question, constitutes the law.

In running over the records of the past we find that in 1806 a body of ship-carpenters formed a union with the object of reducing hours from fourteen to ten, but their demands were dismissed by the ship-builders as a capricious attempt to dictate the conditions of employment. In 1832 an association of carpenters in Boston struck for a ten-hour day, but without success; similar attempts in New York and Philadelphia, however, were more successful. In 1834 the trades-unions of New York made a grand demonstration in which banners were displayed inscribed with the motto: "Ten hours a day."

At that time, according to Mr. North, the day consisted of fourteen hours or more in the textile factories of Massachusetts. In summer, work began at sunrise and ended at sunset, in winter it lasted until nine o'clock, but there were three stops for meals, so that there were only about twelve hours of effective work. In 1855 this was reduced in some factories to eleven or eleven and a half.²³ In Baltimore, however, a ten-hour day had been obtained as early as 1840.

In June, 1845, several thousand operatives met in conven-

²³ *Bulletin of the National Association of Wool Manufacturers*, vol. xxv, p. 283. An ordinance of 1841 fixed the legal day's labor at eleven hours in summer and nine in winter, without counting time for meals. See the *Report of the Bureau of Labor of Connecticut*, 1887, p. 156.

tion at Pittsburg and in a circular addressed to the manufacturers of the country, demanded a ten-hour day. Five cotton manufacturers united in the following response: "The undersigned manufacturers . . . beg leave to say that although they do not admit the right of persons interfering between them and their operatives, . . . yet they have no hesitation in saying that they believe it entirely impracticable to adopt that system here whilst in places the twelve-hour system is continued. They would inform you further that at present our mills run about sixty-eight hours per week, whilst the eastern factories of our country make seventy-two hours per week. Believing, therefore, that the enforcement of such a system here would drive all cotton machinery from our borders, we cannot favor it."²⁴ This reply was followed by a strike in which 4,000 operatives participated, but the reduction was not secured.

In the same year, 1845, petitions were addressed to the legislature of Massachusetts praying for a reduction to eleven hours in manufacturing corporations which rested upon charters granted by the state. The petition was refused because, they said, it would be unjust to treat corporations differently from private persons, and the law "would close the gate of every mill in the state."²⁵

The first public action in this matter dates from the year 1840. On the tenth of April, 1840, President Van Buren issued an order directing that ten hours should thereafter constitute a day's work in all public establishments. The first "industrial convention," an aftermath of the Pittsburg convention, was held in New York in 1845 and a second in Chicago in 1850. The object of both was to secure a ten-hour day. "Such persistency was not without effect, and by 1853 eleven hours became the general custom

²⁴ *The Labor Movement*, ed. by G. E. McNeill, 1887, p. 103. At the passage of the law of 1874 in Massachusetts, the manufacturers asserted that they would be unable to withstand the competition of neighboring states unless the latter passed similar laws.

²⁵ Wright, *Industrial Evolution*, p. 269.

for artisans. In some places factories still ran for more hours, but by 1865 strikes had brought eleven hours as the general maximum in factories."²⁶ Mr. Danryid might have mentioned in particular, the cotton factories of New England, in many of which the work lasted only ten hours.

In California a Mr. Kearney became impressed with the distress caused by the lack of work, and started an agitation which resulted in the convocation of an assembly of 5,000 workingmen in San Francisco in December, 1865. A resolution in favor of an eight-hour day was there passed and a bill embodying the sentiments of the convention was drawn up and presented to the legislature. In February, 1868, after the next election, the bill was enacted into law by a unanimous vote. But it soon became plain that the difficulty was one which could not be settled by legislative action.²⁷

The year 1866, in which Massachusetts passed its well-known law restricting the hours of labor of children, saw the formation of a huge association of laborers—The National Labor Union—which devoted itself among other labor reforms to the task of reducing the hours of labor. This association went to pieces during the crisis of 1873, but new unions were formed in several cities. One procession in New York, organized to show the strength of the eight-hour movement, contained twenty thousand men.

After a number of petitions had been presented to Congress, and several bills upon the subject had been introduced, Congress finally passed the bill drawn up by Mr. Ingersol of Illinois, and it became a law on June 25, 1868. It provided that eight hours should constitute a day's work for all laborers, workmen and mechanics employed by the United States. The law was not regarded by the heads of the various departments, and in 1869, and again in 1872,

²⁶ Lemuel Danryid, *History and Philosophy of the Eight-Hour Movement*, p. 5.

²⁷ Employers evaded the law by hiring their men by the hour, and not by the day.

President Grant issued orders directing that the statute be observed, without reduction of wages. In spite of these orders the law was disregarded and a second statute was enacted in 1872. About this time the Columbia Typographical Society of Washington complained against a reduction of wages which had been made in the Navy Yard. The President submitted the question to the Attorney-General, and the latter decided that the reduction to eight hours did not imply that the wages per hour should be greater than in private employments of the same nature.²⁸ The Secretary of the Navy, fortified by this opinion and by a law of 1862, directed the commandant of the Navy Yard to make the wages of the employees conform, "as nearly as is consistent with the public interests, to those of private establishments in the immediate vicinity of the Navy Yards."

The success of the labor party was thus very modest, but the members were not discouraged; public meetings were held, strikes organized, the "Grand Eight Hours League," the "Boston Eight Hours League,"²⁹ and other associations were formed, to secure the eight-hour day. A more decided success was achieved in 1874. After a great strike had been organized by the spinners of Fall River, the legislature of Massachusetts passed a law limiting the labor of women and youths to sixty hours a week. The bill was passed only after a long debate, and it applied to youths

²⁸ McNeill, *The Labor Movement*, p. 132.

²⁹ In 1872 this league adopted a resolution which described the reduction in the hours of labor as the first step in the emancipation of the laborer and demanded that every manufacturer working his employees more than eight hours a day should be deprived of his license. They demanded in addition that the charter of every city and town should enjoin the day of eight hours in all public works, that corporations should be compelled to accept the eight-hour day or forfeit their charters, that no person of legal age should be employed more than eight hours, and finally that eight hours should constitute a legal day's work in the absence of a written agreement to the contrary.

under eighteen and to women of all ages, employed either by corporations or by natural persons.³⁰

The Knights of Labor, organized in 1869, had already made the eight-hour principle a part of its programme. A little later the Federation of Organized Trades and Labor Unions of the United States and Canada and its successor, the American Federation of Labor, entered into an enthusiastic propaganda of the same principle. In 1866 the first National Labor Congress, held in Baltimore, had passed a resolution in favor of an eight-hour law. By 1888 the Federation believed that the cause was far enough advanced to vote that the general inauguration of the eight-hour day should take place on the first of May, 1890. In spite of the propaganda and the victory won by the carpenters in 137 cities, the eight-hour day has not become universal. But the first of May remains a landmark in the history of the labor party.

The eight-hour system has, nevertheless, gained ground in the last ten years. Many unions have secured it by special agreements with individual employers, and several states have legalized it to the extent to which they believed themselves competent.

In the study of this question I shall distinguish five sub-heads: the movement of opinion and the action of labor-unions; the agreements between private associations, principally in the building industry; the laws upon labor in manufacturing establishments; and the laws relating to public works.

³⁰ In 1845 a committee of the legislature of Massachusetts had reported adversely on a petition praying the legislature to limit the labor of employees of corporations to eleven hours a day, one of the reasons being that the change would necessitate a reduction of wages. In 1866 another commission reported that they were favorable to the day of ten hours but did not believe that it could be secured by legislation. In 1867 the commission refused to recommend a law limiting the hours of labor of adults. The ten-hour law, presented again and again, particularly after 1870, was not successful until 1874, when with the assistance of Gov. Washburn, it at last secured a majority.

The movement of opinion and the action of unions.—The movement of opinion is at present very marked among the laboring classes. The school which, since the time of Ira Steward, has taken as its motto "Labor Movement," has undertaken the mission of propagating and directing the eight-hour movement. Many young economists engaging in this work as followers of various philanthropists have helped to accelerate the movement. Enthusiasts boast, sometimes wildly, of the results that have been or may be obtained. Mr. George Gunton in reviewing the progress of the workingman since 1850, is struck with the fact that the hours of labor have diminished during the same period. He then proceeds, arguing *cum hoc ergo propter hoc*, to attribute the first phenomenon to the second. Speaking of eight-hour laws, he says: "There never was any legislation adopted in any country in the world that has yielded such good economic fruit."

The workingmen themselves, when questioned, give answers very similar to the following extracts which I have culled from the expressions of employees published in the first *Report of the Bureau of Labor Statistics of Colorado*.²¹ "I am in favor of eight hours being established as a day's work, equal pay for equal work, half-holidays on Saturday afternoon, co-operation and arbitration for all labor difficulties," wrote one. "In regard to the eight-hour system," wrote a second, "I think it one of the best movements that could be inaugurated for the working people. I have worked eight, nine, ten, and even fourteen hours a day, and my experience teaches me that eight hours a day is plenty for any man to work, no matter what his pursuit. For two reasons it is a great thing—education and health. I find, working eight hours, that I can get time to become acquainted with my family, and plan things that will interest them, which I never could before. I make just as much money, and even more, and hope to increase my wages in

²¹ Pp. 255-269.

the future. As for health, I have improved wonderfully. When I worked ten hours, I weighed one hundred and twenty pounds; now I weigh one hundred and forty-five pounds. . . . Ten hours' work is pure slavery and nothing more." The third is more modest: "Meat-cutters and butchers work fifteen hours daily. The time ought to be shortened at least to twelve hours. For years I have had no time to read newspapers nor attend meetings of organizations. As for going to church on a Sunday, I couldn't think of it."

In 1890 the New York Bureau of Statistics of Labor published the results of an investigation of the eight-hour question. To the inquiry: "Do you approve of eight hours as the standard working-day?" 531 labor organizations answered "yes," 25 answered "no," and 34 made no reply. "It will give employment to more men," "will afford more time for study and recreation," "would abolish overproduction," the organizations answered. Many affirmed that the reductions already secured had increased the number of workingmen, though they made no attempt to discover the other causes of this increase. The question: "How would an eight-hour working-day affect wages in your trade?" brought out a great variety of opinions, but a large majority of the organizations thought there would be no unfavorable effect.²³ In 1885 the Wisconsin Bureau conducted a similar investigation with the result that 437 firms, employing 22,646 workmen, answered that they were not in favor of the eight-hour day, 68 employers, representing 2,698 workingmen, returned a favorable answer, 233 firms made no reply, and 20 firms gave indefinite answers.²⁴

In the *Eighth Annual Report of the New York Bureau of Statistics of Labor*,²⁵ Mr. Peck, the Commissioner, thus summed up the principal arguments upon which, in

²³ *Eighth Report*, p. 516.

²⁴ *Second Biennial Report*, p. 360.

²⁵ 1890, pp. 13-16.

America, the eight-hour theory rests: "The grand effort of the workingman through all his generations has been less work and more pay. It is a perfectly lawful and reasonable ambition. . . . Better wages, healthier workshops, shorter hours, are only incentives to another effort after improvement. This time it is an eight-hour work day. . . ."

"The eight-hour advocates argue that: (1) Labor creates all wealth; (2) The productive capacity of society is superior to the consumptive capacity of society; (3) Eight hours of labor per day will furnish the maximum of production with the expenditure of a given amount of physical or mental force; (4) The worth of production does not depend upon the rate of wages; (5) The amount of production does not depend upon the number of hours of labor per day; (6) The production of wealth is in proportion to the intellectual and moral development of producers, and this development would be helped by a reduction in the hours of labor. . . ." Six propositions, each containing a grain of truth expanded into a generalization so broad that it becomes positively erroneous.

In an article in the *Quarterly Journal of Economics*,⁸⁸ written from the standpoint of an economist, Mr. Charles Beardsley, sets forth what he believes would be the results of the adoption of the eight-hour day. Starting from the principle—which is true enough—that the shares of the three factors of production are not rigidly fixed, he endeavors to prove that the laborer may increase his share at the expense of the other two by restraining the competition which results from an abundant supply of labor. Assuming that the consumption of commodities and the productivity of labor remain the same, the reduction from ten to eight hours would necessitate an increase of one-fifth in the amount of labor employed, and this, by furnishing employment to the idle, would remove that destructive element of competition which is most potent in depressing the

⁸⁸ July, 1895.

rate of wages. He believes that with a better organization the workingmen will be able to secure the reduction, and that in all probability the price of labor *per diem* will not be ultimately affected. "Laborers are not willing to accept the shorter day along with a heavy reduction in wages. Therefore, it is likely that in the first instance a reduction in hours will be obtained in lieu of a rise in wages. . . . But however the economic effects of a reduction in the hours of work might be obscured, they would be none the less real. Daily wages would tend to fall, owing to a diminution in the output per worker, and tend to rise because of the increased demand for labor as compared with the supply. The net result of these counteracting tendencies would be different in different occupations." There is a certain amount of truth in this argument, and I shall recur to it in the chapter on the determinative causes of wages. But Mr. Beardsley assumes, when he says that the labor-unions wish to regulate the demand in order to secure the benefits of a monopoly, that the number of laborers will remain invariable; he has nothing to say of immigration, nothing of the development of machinery which, in certain cases, replaces the skilled workman by the day laborer.

Many of the American politicians have come out in favor of the eight-hour system, and many others question whether the time is just ripe, but dare not openly attack a theory which pleases the people. Politics makes demands of its own.

In 1886 the Governor of New York, speaking before an agricultural congress, said that although the farm laborer, living close to his work, might put in a longer day, four hours in the morning and four in the afternoon, seemed as much as should be asked of the city laborer who often works miles away from his home. The rest of his time, he thought, should be employed in going to and from his work, and in reading or enjoying the society of his family and neighbors.

The American Federation of Labor has been the most

prominent labor organization in the fight for an eight-hour day. According to an address delivered by President Gompers at one of the congresses held during the World's Fair, the theory which labor organizations ought to follow is that as long as there is a man or woman unemployed who needs employment and is able and willing to work, the hours of labor of those who have employment are too long. The limits of the reduction would be reached, he claimed, when non-employment was abolished and the mass of those who want work and can not find it, is a thing of the past; even then the greatest possible reduction will not have been attained. I agree with Mr. Gompers; the limit may be contracted indefinitely—in theory.²⁶

Hundreds and thousands of unions are associated in this movement. The development of machinery having brought about over-production, they announce, the remedy is a reduction in the hours of labor, and they assume the credit of bringing about an eight-hour day in many trades, while under the ancient régime of hand labor the day lasted from ten to fifteen hours. "All the labor organizations of the State of New York," said the Commissioner in 1894, "are naturally unanimous in their efforts to reduce the hours of labor in proportion to the increase in the productivity of machinery."²⁷ We have seen that the unanimity was not as complete as he supposed.

Experiments have been made in England with the object of determining the relative productivity of labor under the eight-hour and the ten-hour systems, but they were not decisive. Two large constructors of Salford, Messrs. Mather and Pratt, reduced the day from nine to eight hours in 1893, and in the following year asserted that their product had been greater than in any one of the six preceding years, that economies had been effected in lighting, the wear

²⁶ See *Chicago Daily News*, September 31, 1893.

²⁷ *Summary of the Twelfth Report of the Bureau of Statistics of Labor*, p. 15.

and tear of machinery, etc., that the piece-workers whose earnings were sensibly affected at first, were at that time making practically as much as before. But the director of a colliery, Mr. Bainbridge, who made the same experiment, reported a diminution both of wages and production.⁸⁸

The expression "eight hours" marks a tendency. Some trades have secured the reduction, but what the others really want is any reduction whatsoever, so long as they are free to demand a second when they have secured the first. In England, as in America, the workingmen are unanimous in condemning work overtime, even at higher rates of pay, and in a majority of cases they also condemn piece-work.⁸⁹

Some years ago the president of the American Federation of Labor addressed a letter to the President of the United States, Congressmen, professors, etc., asking whether the laborer should be obliged to work more than eight hours a day and what would be the effect of a reduction to eight hours. The President excused himself on account of his official position; most of the politicians pronounced in favor of eight hours; the professors were more

⁸⁸ See *Les Classes Ouvrières en Europe*, by R. Lavollée, iii, 389.

⁸⁹ Overtime, they say, takes the workman from his family and begets an abnormal productivity one moment and idleness the next. Others assert that the moral and bodily inconveniences of working overtime have been exaggerated: the employer has no object in working his men overtime, as their efficiency decreases after the regular hours, and moreover, the entrepreneur cannot divide the time and work as he pleases; this depends upon the orders. And if there is any advantage in keeping the machines at work, it is more than overbalanced by the higher rate of wages paid for extra work.

In England, as in America, many trades-unions are opposed to piece-work because, they claim, the employers arrange the rates in accordance with the earning capacity of the best workmen, because it leads the workmen to exhaust themselves, encourages the manufacture of trashy goods and, they add, the more one produces the less work there is for the rest. Nevertheless, the labor commission was inclined to prefer piece-work, either for individual workmen or gangs of workmen, where it was feasible. *Fifth Report of the Royal Commission on Labour*, pp. 12, 15.

divided in opinion, probably because they did not feel so keenly the necessity of flattering the electorate. One professor favorable to the eight-hour day, expressed some concern about the result, his anxiety having been aroused by conversations with builders who testified that the introduction of the eight-hour day had not increased the speed of the workmen.

In the United States then, as in western and central Europe, there is a systematic agitation for the eight-hour day. Each party conducts its campaign in accordance with the peculiar circumstances and the national character of the country to which it belongs, but all of them—unionists, co-operationists, and socialists of every sect—have the same slogan: less work and more pay. It is plain that the socialists who aim to impose the eight-hour system by force of law, have gained upon the unionists who, for a long time, particularly in England, have advocated the plan of securing reduction through agreements with individual employers.⁴⁰

The effective hours of labor.—The building trades of the United States, in virtue of their effective organization and the general activity of construction, are in a better position to enforce their demands than most of the other trades. The reduction has already been secured in many departments. Out of forty-two building trades investigated in New York in 1894, seven worked on the nine-hour (eight hours on Saturday) and 34 on the eight-hour system,⁴¹ while

⁴⁰ See the reports of the congress of textile-workers which met at Ghent in 1895. The French, German and Belgian delegates declared in favor of political action; the English delegates, in view of the depressed state of their industry, thought they ought to avoid aggravation and stated that they would demand an eight-hour law when the Continental workingmen should have won the privileges which they already possessed. A resolution was passed at this congress calling for political agitation in favor of the eight-hour system.

⁴¹ From a manuscript table communicated to me by the assistant chief of the Bureau of Labor of New York. [In 1898 the labor

the wages, which are among the highest paid, had undergone no reduction. But the cost of construction has increased about 40 per cent. in the last fifteen years.

In 1894 the New York Bureau of Labor began an investigation in which inquiries were addressed to 695 labor organizations. Of this number 404, a good majority, reported that the hours of labor had decreased; six reported an increase; the rest replied that there had been no change, or made no response at all. In a total of 155,483 workmen, 48,411 (representing 169 unions and 42 occupations) worked eight hours, 18,925 (142 unions) worked nine hours, 32,534 (180 unions) worked ten hours, and 10,922 worked more than ten hours. In some occupations the hours are very long; in breweries the work often lasts fifteen hours and bakers sometimes work as high as twenty-two hours.

In Ohio, in 1892, most of the building trades worked on the ten-hour system. Out of 15,141 workmen, 13,619 reported that they worked ten hours except on Saturday.

A table covering 48 cities prepared by the Journeymen Bakers' and Confectioners' International Union of America in 1890 gives the average length of the day's labor for the first four days of the week at ten hours thirty-six minutes, and that of Friday and Saturday at eleven hours forty-nine minutes. The maximum for the first five days (San Antonio, Texas) was thirteen hours thirty-seven minutes, and the minimum (Quincy, Illinois) nine hours thirty-four minutes. But the length of the day varies greatly from one workman to another, even in the same city. Thus, in 1892, bakers worked from seven to eighteen hours, seven hours being the exception, while the average day was from eleven to twelve. On Friday the day was prolonged, to twenty-four hours in some instances, in order to provide

organizations in the building trades reported as follows concerning the working-day: 145 unions, eight hours; 106 unions, more than eight and less than ten hours (97, nine hours); 23 unions, ten hours or more.]

for Saturday and Sunday.⁴² In 1893 the general average was reduced to about ten hours and a half.⁴³

In 1886 at the instigation of the Federation of Labor, the furniture-makers of ten cities made a concerted demand for the eight-hour day and won a temporary victory. But the employers in turn organized and re-established the day of ten hours except in New York and San Francisco, where nine hours is the rule.⁴⁴

According to the report of an investigation made by the Commissioner of Labor of Michigan in 1891, which covered 13,436 female employees, the number of hours of labor varied from three to eighteen and one-half. The majority, however, 7,161, worked ten hours, and 2,000 worked only from nine hours to nine hours and three-quarters.⁴⁵

Among the seamstresses of New York the working-day begins ordinarily at eight in the morning and ends at six in the evening. Allowing forty-five minutes for lunch, it lasts nine hours and a quarter.

It often happens that the length of the day varies among the different employees of the same industry. Thus in the furniture manufacture in New York, the carvers and mod-

⁴² This investigation covered 586 first-class, 802 second-class, 476 third-class, 43 fourth-class workmen, and 33 helpers. *Tenth Annual Report . . . New York*, 1893.

⁴³ The changes which have taken place in some of the occupations in New York are worth noting: In 1872 at New York city masons worked eight hours; this rose to nine hours, then to ten, and finally in 1884, after a strike, nine hours was adopted by three-fourths of the employers. In 1885, by the decision of a committee of arbitration, nine hours through the week and eight on Saturday became the rule, no diminution in wages having occurred. In 1891, eight hours was adopted.

Carpenters in New York city: ten hours, 1880-85; 1890, eight hours.

Painters in New York City: 1860-70, ten hours; 1871, eight hours; 1872-73, ten hours; 1885, nine to ten; 1886-90, nine hours.

Plasterers in Brooklyn: 1879-83, ten hours; 1884-89, nine hours; 1890, eight hours.

⁴⁴ *Rapports de la délégation ouvrière à l'Exposition de Chicago*, p. 710.

⁴⁵ *Ninth Annual Report*, 1892.

ellers work eight hours, while the cabinet-makers, joiners, turners, and varnishers, work nine hours.

The Brotherhood of Painters and Decorators have secured a reduction of hours in many places. At the St. Louis convention in 1892 the secretary of the organization stated that during a period of two years 246 unions had obtained some reduction, that only 18 had failed in their attempts, and that the number of unions which worked not more than 54 hours a week had been increased by 59.⁴⁶

In 1893, after a month's discussion, the cabinet-makers of Boston consented to accept without reduction of salary, the nine-hour in place of the ten-hour day. The carriage-makers, copper-smiths, tin-smiths, shipwrights and farriers also won the same concession.

On Saturday a part of the stores and shops close early,

⁴⁶ In England the Royal Commission on Labour reported that either as a result of restrictive laws upon the labor of women and children or because of a change of custom, there had been a considerable diminution in the hours of labor during the preceding fifteen years. The trades-unions have contributed largely to modify the custom and to secure pay for overtime, so that at present fifty-four hours a week is the general rule for factory employments. In the cotton manufacture it has been shown that, owing to the improvement of machinery no diminution of production has resulted from the reduction of hours. Long hours are not unknown; in some localities the puddlers and molders prefer two shifts of twelve hours to three shifts of eight hours, because of the larger pay, and the bakers and confectioners, among whom competition is very intense, work long hours without the inducement of high wages. But it may be stated as a general rule that the day is not much over nine hours. Long hours, the workingmen say, exhaust the individual physically and morally, and enfeeble the race; by permitting an excessive production at one time, they bring about idleness at another, and thus deprive the laborer of the means of existence. To which the response is made that upon investigation the extra work is not as much as some would like to make it appear, that the employers have no interest in making the hours too long, that shut-downs are caused by other forces, that individual employees, where they are not constrained by unions, like to work overtime because of the extra pay, and that it is an error to suppose that the amount of work can be determined with precision by employers or that it can be distributed according to their wishes. *Fifth and Final Report of the Royal Commission on Labour*, Nos. 12 to 14.

as they do in England, and in certain occupations the workmen also stop at an earlier hour. The custom is by no means universal,⁴⁷ but almost everywhere the labor-unions are working to secure this privilege.

To the question—what is the average length of the working-day in the United States?—it is impossible to give a precise answer because in this, as in other economic measurements, there is no intelligible mean; what we have is a number of heterogeneous quantities massing themselves more or less closely about a common point. At present this point, representing the length of the day's labor, seems to be somewhere between nine and one-half and ten hours, and probably nearer ten than nine and a half. The Aldrich report give ten hours as the general average.⁴⁸

Legislation.—General democratic influences have led American legislatures to adopt, more or less decisively, the policy of legislative restriction. Up to 1880, omitting the federal law relative to public works, Massachusetts was the only state which possessed a law limiting the hours of labor of women and children. To-day at least twenty states have limited the hours of labor of children under 16 or 18 years, and fifteen or more have followed the example of Massachusetts in regulating the labor of adult women. So far as it relates to minors, this legislation seems just; with respect to adults, it appears to me unjust.

Several states have fixed the hours of labor of workmen employed in public works. The *Revised Statutes of the United States*, title 43, contains the following section: "Eight hours shall constitute a day's work for all laborers, workmen, and mechanics who may be employed by or on

⁴⁷ In 1890 the Bureau of Statistics of New York made an investigation concerning the half-holiday on Saturday afternoons: 96 unions answered that they had the holiday; 404 that they did not have it; 94 made no response to the question. *Eighth Annual Report*, p. 464 *et seq.*

⁴⁸ The *Report on Wholesale Prices and Wages*, vol. i, p. 178, gives the general average working day at 11.4 hours in 1840 and 10 hours in 1890.

behalf of the Government of the United States." This is the law which was signed by President Johnson in 1868.⁴⁹ A more recent law, passed in 1888, completes this legislation by bringing letter-carriers under the eight-hour system.⁵⁰ However, as we have pointed out, the Supreme Court has decided that this law does not deprive undertakers of public works of the right of making agreements with their employees to work more than eight hours.⁵¹ The People's party is evidently not of this opinion, as is shown by the resolution adopted at the Omaha convention in 1892.^{52a}

In 1889 Massachusetts limited to nine hours a day the labor of workmen employed in public works, and Texas has a similar law; New York in 1870, Idaho in 1890, California in 1885, Wyoming in 1886, Kansas in 1890, Colorado in 1894, Utah in 1894, and other states have fixed the limit at eight hours. Most of these laws are very recent and apparently do not overstep the bounds of justice since the state, just as any individual, may fix the conditions on which its work shall be done. As a matter of fact, however, they constitute an imprudent obligation on the part of the state: if they are not executed, they furnish the spectacle, always demoralizing, of violated law; if they are executed, they are taken into account by contractors, increase the cost of public work, and give leisure to a limited number of workmen at the expense of the whole body of taxpayers.

The state is still within its rights when it merely defines the length of the working day without making this length

⁴⁹ The eight-hour law was introduced in 1866 in a bill presented by Representative Rogers.

⁵⁰ England took similar measures in 1892 and 1893 when the government decided that the men employed by the ministers of war and marine should work not more than eight hours.

⁵¹ See Stimson's *Handbook*, p. 53.

^{52a} "Resolved, That we cordially sympathize with the efforts of organized workmen to shorten the hours of labor and demand a rigid enforcement of the existing eight-hour law on government work and ask that a penalty clause be added to the said law."

compulsory in private contracts. Thus in 1881 Florida enacted that ten hours of labor should be "considered and regarded as a legal day's work, and held to be such by the courts of this State" and that unless a contract to the contrary was signed by the employer and employee in the presence of at least one witness, the employee should "be entitled to extra pay for all work performed in excess of ten hours' labor daily, if so required by his employer." Experience will probably show that the signature, the witnesses, and the extra pay for "all" work in excess of ten hours, are superfluous.⁵² New Hampshire since 1878, Michigan since 1885, Maine since 1888, and Nebraska since 1895, have had the ten-hour day. Seven other states have fixed the legal day's labor at eight hours. These laws do not apply as a general rule to service rendered by the week or month and they allow longer hours to be stipulated in special contracts.⁵³

The constitutionality of some of these laws is very doubtful. In Ohio, New York and New Jersey,⁵⁴ railway employees are limited to ten hours⁵⁵ and they must be paid extra for overtime. In several states—California, Louisiana, Pennsylvania, for instance—the conductors of tramways and omnibuses are limited to twelve hours. In order to allow workmen time to vote New Jersey has passed an eight-hour law applicable only to election days.⁵⁶

⁵² The clause requiring a witness was omitted from the Revised Statutes of 1892. [Tr.]

⁵³ In Indiana longer hours without extra pay is punishable as a misdemeanor.

⁵⁴ The ten-hour law, applying to steam-railroads now exists in Ohio, New York, Michigan and Minnesota, and applying to street-railways, in New York, Massachusetts and Washington. *Industrial Commission . . . Labor Legislation*, p. 27. [Tr.]

⁵⁵ In England a law of July, 1893, upon the hours of labor of employees of railways gives to the Board of Trade the authority to compel a company to reduce the hours of labor of its personnel.

⁵⁶ In 1894 the machinists of the State of New York complained that the law which gave them two hours in which to vote had been injurious to them because the employers closed the shops during the whole day and thus made them lose their wages. *Summary of the Twelfth Report*, p. 21.

Finally, there can be no doubt that the legislatures exceeded the bounds of their authority and infringed the liberty of the individual when they placed an obligatory limit upon the hours of labor of adults, imposed penalties upon infractions of the law, and made no provision for exceptions by private contract. This is what was done by Massachusetts in 1874 when the labor of adult women was limited to sixty hours a week, and in 1892, when this limit was again reduced to forty-eight. It is what at least ten other states have done in imitation of Massachusetts. It is the course pursued by Wyoming and New Mexico in regard to mine laborers,⁵⁷ and by Illinois in 1893, when that state prohibited clothing manufacturers from working female employees more than eight hours a day or forty-eight hours a week, although a recent decision of the Supreme Court of Illinois has established the unconstitutionality of this restriction. The legislature of Georgia did the same when they restricted operatives in the cotton and woolen mills to sixty-six hours a week, declared all contracts in contravention of this law null and void and authorized "any person" to institute suit against any cotton or woolen manufacturing establishment which made such a contract. It is what was done by Maryland when she prohibited companies engaged in the manufacture of cotton or woolen goods from working children or female employees more than 10 hours a day, either with or without contract.

Nebraska went even further in 1891, under the influence of the Populists, and enacted that eight hours of labor should "constitute a legal day's work for all classes of mechanics, servants, and laborers throughout the state of Nebraska, excepting those engaged in farm and domestic labor." Public officials who evaded this law were to be

⁵⁷ The constitutionality of the Utah law prohibiting the employment of any person in a smelter or an underground mine for more than eight hours a day, has been sustained by the Supreme Court of the United States. *18 Sup. Ct. Rep.*, p. 383. [Tr.]

deemed guilty of malfeasance in office, double compensation was to be given for all work over the specified time, and a fine was to be inflicted for infractions of the last-quoted section. Although the prohibition was by no means absolute, the Supreme Court of Nebraska declared the law unconstitutional in 1894.

The constitutionality of this legislation.—The constitutionality of such laws, when they apply to persons of legal age, is still an open question in the United States. In order to test their constitutionality the Federation of Labor has even supplied workingmen in Indiana and Illinois with means to bring action based upon them. Such cases have, however, not been numerous. In 1876 a Massachusetts judge condemned a manufacturer for violating the ten-hour law, but much more recently the Supreme Court of California annulled an ordinance of the city of Los Angeles which prohibited the employment for more than eight hours of any person engaged on work done by contract with the city. In 1894 an inspector of Cook Co., Ill., arraigned a manufacturer before a justice of the peace for violation of the law of June 17, 1893, which provided that "no female shall be employed in any factory or workshop more than eight hours in any one day or forty-eight hours in any one week." The justice imposed a fine and the judgment was confirmed by the criminal court of the county. But on appeal, the Supreme Court reversed the decision in March, 1895, and declared the above section unconstitutional. "The manner in which this section discriminates against one class of employers and employees, in favor of all others," said the court, "renders it invalid." The court then quoted the constitution of Illinois which provides, in section 2 of the second article, that "no person shall be deprived of life, liberty, or property without due process of law," and decided not only that "labor is property," but that "'liberty' includes the right to make contracts as well with reference to the amount and duration of labor to be performed as concern-

ing any other lawful matter. Hence, the right to make contracts is an inalienable one, and any attempt to unreasonably abridge it is opposed to the constitution." The court moreover denied the argument that the law was a valid exercise of the police power, designed to protect women on account of their sex and physique, and declared that "inasmuch as sex is no bar under the constitution and law to the endowment of women with the fundamental and inalienable rights of liberty and property, which includes the right to make her own contracts, the mere fact of sex will not justify the legislature in putting forth the police power of the State for the purpose of limiting her exercise of those rights, unless the courts are able to see that there is some fair, just, and reasonable connection between such limitation and the public health, safety, or welfare proposed to be secured by it."^{57a}

The opinion of the manufacturer.—Although its constitutionality is doubtful, the economic desirability of legal regulation is at least certain? Not at all, responds the manufacturer; it is inaccurate to say that workingmen are exhausted by their work, because in general the improvement of machinery has removed the necessity of severe muscular strain and has brought about a more wholesome régime in the workshops. Ten hours' work is not excessive, it is beneficial to both the male and female laborer, and when their labor is reduced by law from ten hours to eight, their pay generally declines in about the same proportion. Statistics are paraded before the people to show that wages have not fallen in the states in which the working day has been reduced, but if there has been no reduction, these wages would have been increased, because more productive machinery has been provided for the work. Mr. North, the Secretary of the National Association of Wool Manufacturers, thinks that a comparison of the censuses of 1880 and 1890 justifies the conclusion that wages de-

^{57a} *Bulletin of the Department of Labor*, January, 1896, pp. 203-205.

clined in the cotton and woolen industries in that interval,⁸⁸ but his argument is not convincing.⁸⁹ As Mr. North says, no one denies that the operative who works fifteen hours wears himself out and in the end produces less than the operative who works ten hours a day. There is a reasonable limit, dependent upon the time, the place and the industry, but it is for private individuals, not the legislature, to ascertain this limit and abide by it or not, as they see fit.

The status of the question.—The theoretical advocates of legal restriction can hardly be charged with disregarding its future consequences, but they survey the future more as philanthropists than as practical men. Wages, they assert, will not suffer: "The only reduction of hours which merits a serious consideration," says Mr. Gilman, "is that which involves no reduction of wages."⁹⁰ He claims, as Mr. Gunton does in *Wealth and Progress*, that production will not be impaired, and affirms that industry is ripe for nine hours—Mr. Gunton says eight—because experience proves that as much can be done in nine hours as in ten, because the workman does not have enough time with his family, and the leisure time will be employed in the profit-

⁸⁸ *Bulletin of the National Association of Wool Manufacturers*, p. 267.

⁸⁹ While Commissioner of Labor of Massachusetts, Carroll D. Wright, made an investigation of this subject in which he concluded that under the ten-hour system, introduced into Massachusetts for women by the law of 1874, Massachusetts produced per spindle, per loom, or per operative, as much as, or even more than, any state in which an eleven-hour day was general, and moreover, that wages were at least as high in Massachusetts as in any such state. He says, in effect, that average weekly wages in Maine were \$7.04 for 66½ hours of labor, while in Massachusetts they were \$8.32 for 60 hours. But the figures themselves are not very convincing as the conditions of labor and living are different in the two states. See *Report of the Bureau of Statistics of Labor for 1885*.

⁹⁰ Nicholas Paine Gilman, *Socialism and the American Spirit*, p. 265. In an investigation of 100 establishments made by the labor bureau of Connecticut, 57 reported that there had been no reduction of wages; 31 reported a proportional diminution of wages; and 13 answered that there had been a reduction, but not a proportional one. See the *Tenth Annual Report*.

able occupations of reading, social relaxations, etc. The Federation of Labor demands eight hours because leisure is good for man. But where shall we stop, and how shall we keep wages at the present rate? Some theorists have vainly protested that with our perfected machinery, two hours labor a day on the part of everyone would be sufficient to maintain the present production. An actual demonstration would be necessary to confirm the truth of this assertion, and then, if by some miracle its truth were confirmed, it would be necessary to decree that mankind should not increase its consumption.

Because the conditions of employment are diverse and variable there can be no advantageous regulation by law of adult labor; because the liberty of the individual is involved, there should be none.⁶¹ Political economy—a science of observation leading in practical affairs to the principle of the freedom of labor—should not take sides in this controversy: it is not charged with the duty of fixing the hours that shall be spent in the workshop, which are determined by the requirements of particular industries, times and places. The science does show that the ordinary duration of the working-day is not arbitrary, that usage has fixed it in accordance with the surrounding social and economic conditions, and that it undergoes normal and permanent changes only after corresponding changes in these conditions. If political economy recognizes as legitimate the regulation of the labor of minors employed in manufactures, it also declares that adult persons should be left free to dispose of their own labor according to their personal interests and that the public authority should intervene only to enforce the execution of private contracts. The question of the hours of labor is one of expediency⁶² not

⁶¹ General Walker has examined the question in its different aspects in an article in the *Atlantic Monthly*, June, 1890.

⁶² Prof. Marshall questions whether two shifts of eight hours each, thus utilizing the machinery sixteen hours out of twenty-four, would not effect an economy. The question can be decided by

of ethics, and from the point of view of theory, political economy has no business with it, although as a science of observation it should follow closely the movement of facts and ideas and put in evidence the results, favorable and unfavorable, of its studies of fact. And it is by this study of existing facts that the science reveals a certain general and limited connection between industrial development and the reduction of the hours of labor.

Comparison with France and England.—The question under consideration, as I have said, is not peculiar to the United States. It is actively discussed in European labor congresses as well as in America, and in both places the same arguments are heard and the same party division exists; one wing of the party aims to secure reduction through the action of labor organizations upon individual employers, the other wing advocates the passage of laws making the eight-hour system compulsory. At the international labor congress held in Paris in 1886, the English delegates refused to endorse the resolution calling for an eight-hour day, not wishing to impose, and particularly not by law, an absolute rule in this matter. Party discipline alone led the Australian delegates, who at that time were in favor of a six-hour day, to endorse the resolution. At the London congress of 1888, in which the old unionists found themselves in a minority, the system was endorsed, as it was in Paris in 1889 when the plan of making a demonstration on the first of May, which originated in St. Louis in 1888, was accepted.

In England three parties can now be distinguished: a radical party that demands a compulsory eight-hour law for all industries; a conservative party that desires to secure reduction through the medium of free contracts between labor unions and employers; a party that demands "trade option" or "local option," i. e., the right to pass

actual trial, but an experiment would be necessary for each line of industry.

obligatory laws for specific industries or in limited districts. The leaders are not wholly in accord, and the majority has vacillated in the labor congresses. Thus, in Belfast in 1893, a general eight-hour law, with some exceptions, was endorsed,⁶⁸ but when a bill limiting work in coal-mines to eight hours a day was presented in the House of Commons, the members representing the labor party voted against it; at Cardiff in 1895 the demand for an eight-hour day had grown, and although the miners held aloof, the majority voted for the presentation of a new bill limiting labor in all industries and trades of the United Kingdom, mines excepted, to eight hours per day.

As a matter of fact the hours of labor have been very much reduced in England during the last fifty years, the improvement having been secured at first through laws passed to protect women and minors and afterwards through the natural channels of contract and agreement. So thoroughly has the change been accomplished that for a good many years skilled workmen have not worked more than nine hours a day and fifty-four hours a week. These reductions have been secured in part through strikes and agreements made by the trades-unions; in part they are due to other causes. In some cases they have involved a reduction of wages, but more often this has been prevented by the improvement of machinery. Bakers, day laborers and some other classes have not benefited by the reduction which has taken place in most of the trades.

In France the hours of labor have diminished a great deal since Villermé estimated the average working-day in the textile industries at from fifteen to fifteen and one-half hours, of which thirteen hours were actually consumed in effective labor. The decree of March 2, 1848, limited the hours of labor to ten in Paris and eleven in the provinces; the law of September 9, 1848, fixed the limit at twelve hours; the decree of May 17, 1851, which suspended the

⁶⁸ Lavollée, *Les Classes Ouvrières en Europe*, iii, p. 315.

law has been modified by the decree of April 3, 1889, by which it has been revived. Recently, an investigation conducted by the *Office du travail* brought out the fact that the average day in the Department of the Seine was ten hours and a half. In 1891, out of 100 occupations, 86 had a day of from nine to eleven hours; 8 worked more than 12 hours; and six less than seven hours a day.⁶⁴

Australia, with its deep-rooted democratic tendencies, is unquestionably the first country in which the eight-hour system obtained a firm foothold. In 1856 the system was introduced by the "United Trades" of the colony of Victoria, and it has now ceased to be discussed and has become a general custom throughout the colonies.

In the investigation of the conditions of labor in foreign countries carried on a few years ago under the direction of the *Ministre des Affaires Etrangères*, it was shown that the average working-day was less than ten hours in England, from ten to twelve hours in Germany, about eleven hours net in Austria, from eight to thirteen and one-half hours in Hungary, from ten to twelve hours in Spain, and in Russia from eight (in iron- and steel-works) to fourteen and sixteen hours. I cite these few figures, without going into the minutiae of a comparative study, in order to show: first, that there does exist a connection between the industrial wealth and the hours of labor of a country, because in general, productivity is low where the industrial wealth is undeveloped; second, that democracy exercises an influence in this matter; third, that the United States, with an average working-day which seems to be about ten hours or a little less, holds one of the highest ranks, in this regard, after England.

⁶⁴ *Salaires et Durée du Travail dans l'Industrie Française*, vols. i, ii.

III.

CHILD-LABOR

Number of children employed in factories.—The census of 1870, which was the first to give any information on this subject, estimated the ratio of children between 10 and 15 years of age to the total number of employees at 1:17; the census of 1880 at 1:16; the census of 1890 (from 10 to 14 years) at 1:38. In spite of the change in the age group it is evident that there has been a diminution. The proportion is highest in agriculture, in which some occupation is found for every member of the family.

In manufactures there was one child from 10 to 15 years of age in every 35 employees, in 1870; one between the same ages in every 29 employees in 1880; and one child from 10 to 14 years of age in every 57 employees in 1890. The total of youths below 16 and of girls below 15 years of age, employed in gainful occupations, increased from 115,000 to 180,000 between 1870 and 1880, or about 55.6 per cent., while the total number of employees increased only 42 per cent. In five states—Illinois, Ohio, Iowa, Maine and Maryland, the increase was more than 100 per cent. in the decade 1870-1880, while in those states in which the law obstructed their employment, Massachusetts and Connecticut, for example, the increase was very much smaller (from 20 to 50 per cent.). From 1880 to 1890, however, the number fell from 180,000 to 120,000. This diminution occurred almost wholly in the Eastern and Central states, in which restrictive laws were applied more vigorously than in the preceding decade; in many other states there was an increase.⁶⁵

In certain industries the relative amount of child-labor is a good deal above the average. In cotton-spinning mills

⁶⁵ From 1870 to 1890 there was an absolute decrease of 14,585 in New England and the Central states: in the other states there was an increase of 20,842.

one out of every six employees is a child, and the proportions are nearly as high in the woolen, card-board, and boot and shoe industries. In the tobacco manufacture one child is found to every 12 employees, and in the mines, one to every 20.

In an investigation made by the United States Department of Labor a few years ago, it was found that in the cotton industry, 2,582 out of 6,804 children belonging to the 2,132 families investigated, worked; 1,291 went to school; 2,364 remained at home; and 567 were not accounted for. 1,081 families, i. e. a little less than one-half, put their children to work, and on the average had 2.4 children so engaged. This was somewhat higher than the figures for the cotton industry of Europe, as ascertained in the same investigation.⁶⁶

In the woolen industry, the percentage was a little less, 2 children per family.⁶⁷ In the glass manufacture, in which wages are high and there is but little place for children, the proportion was only 1.5; in the steel industry it was 1.9; in coal-mines and blast-furnaces, 1.6; in the coke manufacture, 1.4.⁶⁸

Objections against child-labor in manufacturing industries.—Omitting household industries, which will be treated in connection with the sweating system, it is in the textile industries that child-labor is most extensively employed. For many years American economists, socialists, hygienists and philanthropists have given themselves much concern about the number of children employed in manufactures. For this condition, which they claim constitutes a social peril, machinery is partly responsible. The manufacturers are also responsible in part. Wishing to lower

⁶⁶ In England 2.1; in France 1.8; in Germany 2; in Switzerland 1.9; general average 2. In the United States the proportion for American families was as large as that for other nationalities. *Seventh Annual Report of the Commissioner of Labor*, p. 1706.

⁶⁷ *Ibid.*, p. 1716. For American families, 1.7.

⁶⁸ See also the *Sixth Annual Report*, pp. 1286, 1293, 1300, 1307.

the expenses of production, they have substituted children for adults wherever it was possible. A few having introduced the practice, all the rest were forced to follow by the pressure of competition. Philanthropists have repeatedly warned parents, who among the lower classes are opposed to legal restrictions, that the net income of the family is not increased by putting children to work. The children, they say, grow up in ignorance with stunted faculties and blunted morals; the race retrogrades, becomes habituated to "starvation wages," and in many instances the child does a man's work in some factory, while the father idles in the streets, unable to obtain work.⁶⁹

"My attention has frequently been called," wrote the Commissioner of Labor of Ohio in 1887, "to the alarming growth of women and child-labor in the gainful occupations. . . . Children are crowded into workshops at twelve years, and at fifteen they are able to do a man's work, but their wages are fixed at thirty, forty and fifty cents a day. They are given work at meagre wages until they reach the years of manhood, when they are thrown out of employment to make room for some other boys who will work cheaper, and who have been crowded into the works behind them."⁷⁰

The laws of Massachusetts.—At present most states have laws upon child-labor. Massachusetts, which has always

⁶⁹ Col. Wright in the *Sixth Annual Report of the Bureau of Labor of Massachusetts*, p. 51, says: "The rates of wages, after a little time, will readjust themselves to the new state of things and the same amount of money, or a somewhat near approximation to it, will be earned by the head of the family as is now earned by him in conjunction with his children." I think it hardly safe to affirm that the same equilibrium will be re-established. Mr. Bemis (cited by R. T. Ely in his *Introduction to Political Economy*, p. 221) states that the iron-workers of western Connecticut, whose children do not work, have as large incomes as the textile operatives of eastern Connecticut whose children do work. But this proves nothing, as wages are universally higher in iron-works than in textile factories. "In the case where a man is assisted by both wife and children he earns the least," Col. Wright adds. But are they forced to assist because his wages are low, or are his wages forced down because they assist?

⁷⁰ P. 9.

been solicitous about education and moral progress,⁷¹ took the lead in the laws of 1866 and 1867 which prohibited the employment of all children under ten years of age and limited the employment of children between ten and fifteen years to sixty hours a week, prohibiting the employment of children of the latter class altogether, if they had not attended school at least three months in the preceding year.⁷²

A commission was appointed, a board of inspection established and two years later, a bureau of statistics of labor was created. By the law of 1874 which I have cited several times, the labor of youths under 18 years of age was limited to ten hours per day.

More recent laws (1882) prohibit the public exhibition, as acrobats, dancers, or singers, of children under fifteen; (1884) prohibit manufacturing or commercial establishments from employing any youth under eighteen years of age more than ten hours per day or sixty hours per week; (1880) prohibit the cleaning of any machine while in motion by children under fourteen years, and prescribe a penalty for any employer who regularly employs a child under fourteen years whom the employer knows cannot read and write English and has not attended school the preceding year. A law of 1888 establishes the following rules applicable to all establishments in which five persons,⁷³ or two

⁷¹ The first law of this kind in Massachusetts dates from 1836. In 1842, through the efforts of Horace Mann, the great pedagogue, the labor of children was restricted in order that they might attend school.

⁷² The labor of women and children has been the subject of frequent legislation in Massachusetts since 1832, and since 1836 there has existed some law requiring school attendance from children employed in manufacturing establishments. The law of 1866 limited the hours of labor of children under fourteen to eight per day and required that such employees should have attended school at least six months during the preceding year. The law of 1867 required that children under fifteen should have had three months' schooling in the preceding year and fixed the labor limit at sixty hours per week.

⁷³ The Pennsylvania law does not recognize as factories establishments in which less than five persons are employed.

women or children, are employed; no child under thirteen^{78a} years of age shall be employed at any time in any factory, workshop or mercantile establishment; no such child shall perform any work for wages or other compensation during the hours when the public schools of the vicinity are open, nor be employed in any manner during such hours unless during the preceding year he has attended school for at least thirty weeks as required by law; no child under fourteen years of age shall be employed before six o'clock in the morning or after seven o'clock in the evening, or be employed at all in any factory, workshop or mercantile establishment, except during school vacations, unless the employer procures an official certificate attesting that the child has attended school at least thirty weeks during the preceding year; no minor unable to read and write English shall be employed unless he is a regular attendant of an evening school.

Employers and factory inspectors must keep on file a complete list of minor employees, and employers must post in workrooms a notice stating the hours of labor, meal-hours, etc. Truant officers when directed by the school committee may visit workshops, require certificates to be shown for all employees under sixteen, and bring prosecutions against employers violating the law. Parents and employers violating these laws are punishable by fine.

Laws of other states.—Between 1882 and 1895 twenty states followed the example of Massachusetts in fixing an age minimum for minor employees, many of them copying the Massachusetts law almost verbatim. In 1895 four states—California, New Hampshire, New Jersey and Vermont, fixed this minimum at 10 years; six others have adopted 12 years; eight, comprising Massachusetts, have fixed it at 13 or 14 years. Louisiana has fixed the minimum at 12 for boys and 14 for girls. Six states absolutely

^{78a} This limit was raised to fourteen years in 1898. *Mass., Acts of 1898, ch. 494, sec. 1.* [Tr.]

prohibit the employment of children in mines. Almost all require employees under 14 years of age to have attended school from twelve to thirty weeks during the preceding year, and limit to ten, some even to eight, hours per day the labor of minors under 16 or 18 years of age.⁷⁴ Several states prohibit the employment of children in certain occupations dangerous to health. Finally, in the session of 1890-91, Congress passed a law applying to the territories, which expressly prohibits the employment of children under 12 years in the underground workings of any mine, under penalty of a fine not to exceed \$100.

Application of the law.—There are many manufacturers who approve of the principles underlying this legislation and conscientiously endeavor to abide by it, but there are many others who regard it as a burden upon their business and attempt to evade it. To these must be added the numerous body of parents who through necessity or otherwise seek to evade the laws. In states which do not maintain a corps of salaried inspectors the law is openly violated; it is often violated in the states which have such inspectors. In many establishments, even at Boston, one notices children under 13 years of age.⁷⁵

Certain inspectors' reports return the relative number of operatives under 14 years of age at less than one per cent. in Fall River and about two per cent. in New Bedford, but one cannot help wondering whether the number of children is not concealed when the inspectors call, and whether the ages given in the certificates are always correct. "I have myself known parents," says George Gunton, "who actually changed the ages of all their children in the regis-

⁷⁴ See in this connection: Stimson's *Handbook*, and "Child-Labor," by W. F. Willoughby, *Publications of the American Economic Association*, vol. v.

⁷⁵ Out of 125,942 persons employed in the textile industries of Massachusetts in 1888, there were only 1,616 under fourteen and 7,845 from fourteen to sixteen, about 7½ per cent. in all, under sixteen. *Child-Labor*, by Clara de Graffenried, p. 66.

ter of their family bible, dating their births uniformly two years earlier in order to evade the law and get their children into the mill two years earlier."¹⁶ Other parents use the certificates of older children to get employment for their younger ones. There is even a traffic in certificates; Canadians about to return home often sell the certificates of their children.

Cases often occur in which a rigorous application of the law would cause great hardship. Miss Clara de Graffenried cites the case of a little girl of twelve years who earned about \$1.50 a week. When questioned by an inspector "she burst into pitiful weeping and between her sobs told a sad story, afterwards verified in every particular, of her mother with uncertain employment, three little sisters, aged grandparents, one of them blind, and nobody able to work. 'So, as I am twelve, could read very well and had been to school five years, my mother thought I might help her a little. We have been so much better off since I came here. Oh, don't send me away.'"¹⁷

In the matter of schooling, the masters of the Irish and Canadian parochial schools have been accused of being entirely too accommodating in the giving of certificates; at any rate, it is well known that some children evade going to school altogether. In Massachusetts, for instance, the census of 1885 showed that 13 per cent. of the inhabitants between 5 and 14 years of age were illiterate. In the South ignorance is much more general, and the law less respected. In Georgia, a few years ago, an investigation of 304 white employees revealed the fact that 35 of them were children, the average age of whom was between 8 and 9 years. More than 30 per cent. of the white employees of American parentage employed in the cotton mills of Virginia, South Carolina, Georgia and Louisiana are without education and have never gone to school for any length of

¹⁶ *Child-Labor, Publications of the American Economic Association*, vol. v, p. 105.

¹⁷ *Child-Labor*, p. 89.

time. A part of those who know how to read were taught in the Sunday-schools. We must content ourselves with a partial enforcement of laws such as we have been considering, though this is no reason why we should dispense with the services they can render.

IV.

APPRENTICESHIP.

A few words upon the history of the subject.—The question of apprenticeship is concerned with the employment of children, although it is quite distinct from the general subject of child-labor, in which the child is treated as a small workman with a permanent occupation. Apprenticeship is an education, not a livelihood. In any event it is one of those questions which in America as in Europe hold the attention of the industrial world and at times array the laboring classes against the employers. Out of 22,304 strikes and 2,214 lockouts which are recorded between 1866 and 1881, 213 strikes and 169 lockouts were caused by some difficulty about apprenticeship.⁷⁸ This was the cause of the great strike on the Chicago, Burlington and Quincy railroad in 1888.

America is too young to have known the régime of the trades companies. In the first part of the nineteenth century the population was almost entirely engaged in agriculture, and manufactures were conducted on a very small scale. The apprentice system existed at this time as it did in England, but public opinion paid little attention to the

⁷⁸ The number of such strikes in the United Kingdom was 58 out of a total of 16,731. *Fourth Biennial Report*, . . . Minnesota, 1893-94, pp. 158-163. For the general question of apprenticeship see, among others, the study of Mr. Bolles: "The Law Relating to Workingmen in Pennsylvania" in the *Report of the Bureau of Industrial Statistics for 1888*. cf., *First Biennial Report*, . . . Colorado, 1887-88, p. 31.

fact. The modern transformation of industry has changed the regulation of the workshop.¹⁹

The causes of the decline of apprenticeship in America and Europe, are various. Children have become more independent and submit less readily to a protracted period of obedience: like the rest of the family they are anxious to be drawing their wages. Modern industry with its machinery and division of labor no longer requires the protracted period of initiation; the modern manufacturer has neither time nor inclination to pay attention to apprentices. There are young helpers, but there are practically no apprentices, in the textile industries to-day. The chief of the bureau of industrial statistics of Pennsylvania found only two trades, the baker's and the barber's, in which apprentices lived with their masters, and he explains this by the fact that bakers' apprentices must be at work very early, and barbers' apprentices are not paid. He cites several large establishments, however, in which apprentices are still taken, although they are not fed or lodged; and he instances a large number of trades in which apprentices are taken in this way and paid a certain salary during the four or five years which they spend learning the trade or some part of it.

The formation of labor-unions in connection with the de-

¹⁹ The Royal Commission on Labour in England stated that apprenticeship had declined with the introduction of machinery, the division of labor and the establishment of large manufactories. The custom of binding out lads for five or six years still exists in some trades, but is fast disappearing. The workmen themselves desire the establishment of a law upon this subject. Some of the best organized trades-unions have secured an apprenticeship of five years, in their trade, and a limitation of the number of apprentices to one-third or one-fourth the number of workmen. It is desirable, the workmen claim, that good workmanship should be assured by long education, that employers should not be able to reduce the productivity of labor by employing incapable workmen in busy seasons. The employers respond that less time is required to learn a trade than formerly; that to fix rigidly the number of apprentices is to prevent the development of an industry; that restrictions are almost always prejudicial to the public interest. *Fifth and Final Report of the Commission on Labour*, p. 16.

velopment of machinery and the evolution of the huge modern industrial establishment, have elevated the question of apprenticeship to the dignity of a social problem. In the building industry, for instance, up to the Civil War, there was scarcely anything but small builders with a few workmen and one or two apprentices who lived with their masters. After the Civil War came the régime of the large contractor, and when his position made it impossible for him to look after the apprentices, they were turned over to ordinary workmen who had little authority and no pecuniary interest at stake, and in consequence, bothered themselves very little with the apprentices. In place of apprentices then, the employers began to increase the number of low-paid helpers. This touched the workmen at a very tender spot and the labor-unions, many of which were founded at this period, realized that they ought to solve the question of apprenticeship themselves, and above all, that they ought to limit the number of apprentices.

The labor organizations had inaugurated their movement before the war, and they conducted it with some success until about 1875. Since then their efforts have been paralyzed by the employers, who have a formidable weapon in the immigrants who still come to America of their own accord, and who used to be imported from Europe under contract. It was about 1875 that the Populist party, directed and encouraged by the Knights of Labor, obtained the first law restricting immigration.

The transformation of the apprentice system is far from complete, and harmony between employers and workmen has by no means been secured. It is in the small manufactures and the building industries, rather than in the large manufactures, that regulations have been formulated by labor-unions, and more or less adopted by employers.

Apprenticeship in the building trades.—I shall note first some of the rules which have been handed down by custom or which the trades-unions now attempt to enforce.

The stone-cutters for instance have ancient customs of

apprenticeship to which they have remained faithful and which their association—the Journeymen Stone-Cutters Association of North America—intends to consolidate. The apprentice begins to learn his trade when he is between 15 and 18 years old, and finishes in four years; he is bound out to a master, but he remains under the control of the branch of the Association in which he is enrolled, and the latter in turn takes care that he does not work longer hours than the journeymen, that he is given work which will teach him the trade, that the employer keeps him the whole time for which he was engaged, and, in case the employer goes out of business, that he is bound over to another master. Each branch of the Association reserves the privilege of fixing the number of apprentices in each establishment within its jurisdiction, although this number cannot exceed two in any shop employing less than 100 workmen, nor four in other shops.

The stone-cutters of Chicago, who have an independent organization, observe almost the same rules. They stipulate in particular that difficulties between masters and apprentices shall be adjusted by committees of arbitration, that apprentices who leave their masters without permission shall be excluded from all union shops, and that after having served his time, an apprentice must show a certificate from his master before he can be admitted as a member of the Association.

In the National Union of Granite-Cutters the length of the apprenticeship is only three years and after having worked at his trade for three months the apprentice becomes affiliated with the union, though without a vote. The quarry-men have a labor-union which enrolls and instructs apprentices, and fixes their number, age, and time of service. It is only by degrees and not without resistance that the employers have renounced their ancient right of directing and being responsible for apprenticeship.

The International Union of Bricklayers of America is one of the largest associations of this class, because more

building is done with brick in the United States than with any other material, except wood. This association extends over several of the American republics and for this reason, among others, no uniform system of apprenticeship has been adopted. The by-laws permit each affiliated union to regulate apprenticeship in its locality, though the unions are specially directed to register the entrance and departure of apprentices, to find new masters for apprentices whose first masters have gone out of business, and to debar from all affiliated unions any apprentice who leaves his master without a legitimate reason. Several of the branch-unions have made agreements with associations of employers by which a common regulation is established.

The contract drawn between the Association of Building Contractors and the Bricklayers' Union of Boston is worthy of further notice. It provides that no apprentice shall be taken who is unable to read and write English, or who is less than 16 or more than 21 years of age; that the contractor shall keep apprentices three years and give them a suitable instruction in the trade; that at the expiration of his time the apprentice shall receive a certificate of apprenticeship, upon presentation of which he shall be entered as a member of the union; that the register of apprentices shall be kept regularly and that a mixed commission of employers and workmen shall be instituted to superintend the apprentices and adjust differences. In Minneapolis a similar contract was signed in 1892 which provides, among other restrictions, that there shall be but one apprentice to each contractor, whatever number of workmen he employs. At St. Paul the employer is authorized to have one apprentice for each eight workmen. At Duluth it had been the rule to allow a contractor two apprentices irrespective of the number of journeymen employed. As advantage was taken of this by several employers to keep no workmen beside apprentices, the two associations, wishing to rid the trade of such encumbrances, it is said, decided to suspend the ad-

mission of apprentices altogether, during the two years 1892-93 and 1893-94.⁸⁰

The United Brotherhood of Carpenters and Joiners of America officially declare one of the objects of the association to be the encouragement of "an apprentice system and a higher standard of skill." The local union remains free to make what regulations it sees fit on this subject. In a convention held in Detroit in August, 1888, the following resolutions were adopted: The length of the apprenticeship shall be three years; no apprentice shall, without just cause, leave his master before the expiration of his time; the number of apprentices shall be controlled by the local union, but should be proportioned to the number of journeymen; unions are recommended to admit apprentices as probationary members one year before the end of their terms, in order that they may prepare themselves for the privileges and obligations of the brotherhood.⁸¹

Among the plumbers, apprentices must have received a common school education, must enter the trade between the ages of 16 and 20 years, remain five years as an apprentice, including in this term the trial period of six months. Apprentices should be used as helpers during the first three years and during the last two years as petty journeymen. Employers are entitled to one apprentice for each four workmen. In New York the workmen have made an agreement whereby the employer is entitled to one apprentice for every three journeymen, although no one establishment may have more than five apprentices.⁸² After he has served five years the apprentice takes an examination before a board appointed by the union, by which he is classed for six years as a workman of the first or second grade and his salary thereby fixed. Between the journeymen and the master-plumbers there have been, and still are, long and animated controversies over the number of apprentices, the

⁸⁰ *Fourth Biennial Report . . . Minnesota*, pp. 208 and 209.

⁸¹ *Fourth Biennial Report . . . Minnesota*, p. 213. ⁸² *Ibid.*, p. 225.

employers declaring that they need more assistants, and in consequence, more apprentices than the journeymen wish to concede.

In several of the building trades, the employers have established, or have endeavored to establish, schools of apprenticeship of which I shall speak further on. The workmen as a rule are not in favor of trade schools which, they claim, are incapable of turning out good workmen, and they look upon the schools as a means whereby apprentices will be taken from their control. This control they strongly desire to retain, and it is admitted that in the last twenty years the unions in the building trades have made progress in this direction.

The regulation of apprenticeship in other trades.—A few examples from other trades follow.

The International Brotherhood of Blacksmiths whose members work for the most part in railroad shops, have fixed the period of apprenticeship at three years, one apprentice is allowed for each five workmen, and no helper is allowed to take a fire unless he receives the wages of a journeyman. But this association has met with little success and apprentices have been almost entirely replaced by helpers, who are now employed in great numbers.⁸³

The International Brotherhood of Machinery Molders reserves the right of determining the number of apprentices, fixes the apprenticeship at four years, excludes from all shops under its jurisdiction an apprentice who has deserted his employer without good reason, and gives to an apprentice who has been maltreated the right to leave his master. But many of the large foundries will not tolerate this interference and make their own contracts with the family of the apprentice.⁸⁴

The International Brotherhood of Brass Workers has fixed the minimum term at three years, and certificates are granted by the officers of the local unions. Each local

⁸³ *Ibid.*, p. 268.

⁸⁴ *Ibid.*, p. 268.

union is authorized to make regulations upon apprenticeship and to fix the number of apprentices, but all regulations should be submitted to the International Union.⁸⁰

In the manufacture of machines, three classes may be distinguished: the large establishments which for the most part pay little attention to the rules formulated by the unions, take as many apprentices as they need, train them carefully, providing instruction in arithmetic, drawing, etc., and in fact make their own rules about apprenticeship; small shops conducted by men who have learned the trade themselves, and who look after their few apprentices in person; finally, the construction shops of the railroad companies and certain other large works which take a great number of boys as helpers, and keep them constantly at the same work under the direction of a few skilled workmen, without caring whether they learn the trade or not.

The last system of training is encouraged by the use of machinery, and tends to reduce wages, a fact which has caused the system to be fought very bitterly by the two labor organizations in this trade, the International Association of Machinists and the International Machinists' Union. The Association was founded in 1888 and draws most of its members from the South, although it does not admit negroes; the Union was founded in New York in 1891, and makes no discrimination on account of color. Both organizations require four years apprenticeship beginning between the ages of 16 and 21 years, and demand that there shall not be more than one apprentice for every five journeymen. Only those candidates are admitted to the order as practical mechanics, who have served the regular term of apprenticeship or who have worked four years at a suitable salary in some workshop and who have complied with the other requirements of the local lodge. Their by-laws provide that any member introducing into a shop, or working with, any person who is not a member or an ap-

⁸⁰ *Ibid.*, p. 251.

prentice of the order, shall on the first offense be punished with a heavy fine, and on the second offense be expelled. But these are pretensions which are not always respected. The unions are not strong enough to prevail against the regulations of the great companies, and it is not at all rare to find more than one apprentice to five workmen.⁸⁶

The Knights of Saint Crispin, an association formed about the time the manufacture of boots and shoes was passing from the condition of a domestic industry, showed themselves very jealous of the control of apprenticeship. "No member of this order," said the constitution, "shall teach or aid in teaching any part or parts of boot or shoe-making unless the lodge shall give permission by a three-fourths vote of those present," and the only exception made was the permission accorded fathers to instruct their sons. But machinery has proved to be more powerful than the organization; old methods have been revolutionized by the division of labor; the union which had 40,000 members at one time has ceased to exist, and although it has been succeeded by other organizations, the regulation of apprenticeship is to-day practically extinct.

Almost the same statement may be made of the cigar manufacture. The foreman of a large factory in which the "bunch making and rolling" system was used, said: "We have no system of indenture in our factory. We hire girls and teach them the different branches of the trade and when they show sufficient aptitude we advance them to other branches. Their wages are raised accordingly. . . . About ninety per cent. of those engaged in the trade are foreigners or of foreign descent. The union still insists on an apprenticeship of three years. . . . We are compelled by Eastern competition to employ this kind of help at cheap labor. . . . We do not teach boys the trade."⁸⁷

⁸⁶ Mr. Powers states in his investigation, that in the 28 construction-shops in Minneapolis, there were 209 workmen and 60 apprentices, most shops having more than five apprentices. One establishment had 15 apprentices and 12 workmen. p. 260.

⁸⁷ *Fourth Biennial Report . . . Minnesota*, p. 311.

The Journeymen Tailor's National Union of America authorizes each journeyman to have one apprentice, but the privilege is seldom exercised. Most of the work is given out by piece. If it is ready-made work it must be done with great speed; if it is custom work it has to be done with great care; in neither case is there any place for the apprentice. Moreover, American youths seldom take up this occupation: it is filled almost entirely by immigrants.⁸⁸

The International Typographical Union has concerned itself with apprenticeship for many years, and since 1850 has attempted to limit the number of apprentices with a view of maintaining wages; the further regulation of apprenticeship, however, is left to the local unions. The latter have uniformly adopted the four-year term,⁸⁹ and insist both that there shall be a contract of apprenticeship and that the apprentice shall serve out his full time. The number of apprentices is limited. In shops employing union workmen, the proportion of apprentices to journeymen varies from one-tenth to one-fifth, according to the city in which the shop is situated. In the general assembly of 1893 the Federation of Typographical Unions of California resolved that apprentices should be required to pass an examination before being admitted into the organization. The examination had been adopted by some unions before this time.

In the cities, the large printing houses seldom have the full number of apprentices allowed by the union. They recruit their personnel chiefly in the towns and small cities, where many master-printers assisted only by one or more apprentices, do their own work. When these apprentices have finished out their time and are not needed in the offices in which they learned their trade, they go to the cities in search of work. The use of the linotype machine, of which I have spoken in the preceding chapter, has introduced many changes in the trade. In view of the diminution in

⁸⁸ *Ibid.*, p. 293.

⁸⁹ At first the national union required a five-year term, but this was afterwards reduced. *Ibid.*, p. 276.

the number of compositors which will probably be caused by this machine, the unions have been led to demand a reduction in the proportion of apprentices, and to require that the latter be taught the use of the machine in their fourth year.

In the textile industry the dyers guard the secret of their art, which is very well paid, with great jealousy and refuse almost universally to train apprentices. The association of iron and steel workers has renounced such secrecy and has adopted by-laws regulating apprenticeship. Mr. Bolles, who has reproduced a number of these regulations in one of his reports,⁹⁹ thinks there is a tendency to reduce the amount of restriction in most trades, as its disadvantages are well-understood by the workmen. Two of its gravest consequences are found in the facts that it virtually closes some of the best trades to the children of workmen and stimulates the invention and introduction of new machinery.

School of apprenticeship.—In the building trades the employers have finally become convinced that in order to maintain their position they must oppose federation with federation, and in 1887, after having founded several local associations, they formed a national association. In their public declaration of principles they reaffirmed the principle of liberty and the absolute right of each individual to work or not to work, to employ other individuals or not to employ them; they recognized the right of laborers to organize and expressed a desire to confer with them when disputes arose; finally, they declared that a uniform system of apprenticeship ought to be adopted and that it had become necessary to establish evening and manual training schools. The old apprentice system, they continued, could not be revived; the time had come for technical schools under private control, and certificates of ability conferred by the employers' association.

⁹⁹ *Pennsylvania Industrial Statistics*, 1893, 20 D.

They were not the first to endorse the trade-school. The General Master of the Knights of Labor, Mr. Powderly, in a memoir addressed to the general assembly of the commissioners of labor in 1888, had declared that the remedy lay in the establishment of a system of industrial schools in which the sciences, the arts and the trades should be taught, and he had announced, with rather too much optimism, that thanks to this system the American youth would become skilled in all kinds of trades.⁹¹ United in their demands for schools, employers and employees are divided on the question of the control of such schools.

Schools of apprenticeship were rare in 1888 and they are still rare. The most important of these was the school founded by Col. Auchmuty, which the Association of Constructors took as their model. But the Association did nothing itself, and was compelled to acknowledge that apprenticeship was still in the hands of the workmen, or at least, that the control of this matter was divided between the constructors and the workmen. They want to get control of the schools and monopolize everything, said the workmen.

However, other efforts have been made. I may mention, as examples, the School of Industrial Arts in Philadelphia, which is subsidized by the government and has had a well-organized textile school since 1882; five or six schools of horology, the most important of which is that maintained by the works at Waltham; and the Manual Training School of St. Louis founded upon an original plan by Mr. Woodward. I visited this establishment, which is said to be the oldest of the kind in the United States and was present at one lesson in which the scholars, after a theoretical demonstration and an example given upon the anvil by the teacher, reproduced in lead the model which had been made before them. Similar schools have been established

⁹¹ The delegation of the labor organizations of Paris mention with praise one institution of this kind.

throughout the whole country, modelled after the Manual Training School of St. Louis. In Philadelphia the Builders' Exchange maintains an evening school in which manual training is given, and at Williamson there is a day-school, the School of Trades, which gives a technical education in three years. The Drexel Institute of Philadelphia, with its remarkable equipment, is designed for more advanced work than the training of apprentices. In New York, free evening courses have been instituted through the munificence of Mr. Cooper, in which mathematics, chemistry, physics, designing, modelling, etc., are taught. In 1893 the membership of some of these courses was more than 300.²²

Laws upon apprenticeship.—Most of the older states have had laws upon apprenticeship for many years. The Pennsylvania law, which I shall take as an example, goes back to the colonial period. The statutes of 1770 provide that the parents, guardians, or, in the absence of these, the overseers of the poor shall have power to bind out as apprentices boys under 21, and girls under 18, years of age. The courts have decided that except in the case of charitable institutions apprenticing inmates, the consent of the minor must be obtained. The master must teach the apprentice his trade, send him to school if possible, see that he attends religious exercises, without constraining his liberty of conscience when he has reached years of discretion, and act towards him as a father. The apprentice in turn owes obedience to his master. The courts have annulled indentures because of insufficient training given to an apprentice. Fifty years ago it was necessary for the apprentice to live in the house of his master; but this is not the case at present. The master may not take an apprentice out of the state unless this power has been expressly granted him.

²² Ten years before, there were 43 state institutions, with 6,000 scholars, in which technical training was given. But these were almost entirely agricultural colleges or agricultural departments of state universities.

In most cases the contract is annulled by the death of the master, but the executors may endeavor to secure another place for the apprentice. These rules, established by law and custom, and others which are too lengthy to reproduce here, are still in force in Pennsylvania."

In the 44 states and territories which had laws upon apprenticeship in 1896, a minor can be bound out by his or her father, mother, guardian, or the officials of charitable and reformatory institutions; in some states, *e. g.*, Massachusetts, California, Colorado, Kansas, minors can bind themselves out although the contract must be confirmed by some authorized person. The age limit is usually from 18 to 21 years, though in some states it is lower. The term may be one year, it cannot be more than five years. These contracts are sometimes made in order to secure transportation from one city to another, or even from Europe to America. According to the several laws of the different states, the apprentice is or is not freed by the death of the master or by his departure to another state. The master may, in certain cases, correct an apprentice in the manner of a parent, but he must treat him humanely, give him some education, teach him the trade, feed and lodge him, and at the end of the apprenticeship provide him with certain articles, usually a new Bible and suitable clothes."

The American apprentice.—The trade of the mechanic requires considerable skill and the wages are good; in Minnesota the apprentice receives 70 cents a day in his first year. Young Americans are very favorably disposed towards this occupation and in Minnesota, at least, the majority of the apprentices in this trade are of American birth, while in the rougher and more laborious trades, such as stone-cutting or molding, the Americans are in a minority.

" See " Apprenticeship and Industrial Schools " in the *Annual Report of the Secretary of Internal Affairs of the Commonwealth of Pennsylvania*, pt. iii, *Industrial Statistics*, 1893.

" *Second Special Report of the Commissioner of Labor*, " Digest of Apprentice Laws."

In many occupations which are somewhat disagreeable or difficult to learn, the children of American parents do not hold the rank, in point of numbers, to which they are entitled. They are too anxious to be making money and, it is said, are not stable. It is interesting to listen to the testimony of an iron molder upon this point:

"The question often presents itself to the uninitiated, Why are there so few really skilled native American mechanics in our factories and workshops? . . . In nearly every foundry I have worked in I have found that not only were the leading molders foreigners, but in the most cases the foremen were Scotch, English, Irish or Germans. . . .

"As a whole, the average American molder to-day will not compare favorably with the foreign element in point of skill or good workmanship. It is not because the American is the inferior of his European brother in natural ability or mechanical ingenuity, for it is a well-known fact that the Americans are the greatest inventors and originators of any nation in the world, but rather that the young men of American birth and education fail to use their opportunities, or make use of a trade only as a stepping-stone to what they consider something better. . . .

"The duty and oftentimes disagreeable work of a molder is distasteful to a large majority of our American young men, and when he has finished his education he is generally looking for something which appears to him to be more genteel, such as book-keeping or a clerkship. . . .

"I have often heard it asserted that the reason there are so few good American mechanics turned out was that the trades-unions opposed any system that would increase the number of competent workmen. . . . To say that the trades-unions oppose an apprenticeship system because it would increase the number of competent mechanics, is to assert an ignorance of all the principles of trades-unionism and the reasons for their existence."

The testimony of this workman is undoubtedly sincere; but are his conclusions correct?⁹⁵

The preceding testimony is partly confirmed by the editor of the "Age of Steel."

"Much has been said and written of the reasons why the average American youth is not so prominent as he ought to be in American workshops and trades. He has been declared the victim of trades-unions and alien handicraft, and his absence from national industries not so much a matter of volition as of tyranny.

⁹⁵ *Fourth Minnesota Report*, pp. 252, 253.

All this in certain instances and localities may be more or less true, but that it wholly accounts for the missing American apprentice no man conversant with the details of the situation can conscientiously assent to. The fact is that while our native youths are both mentally and physically fitted for any and every branch of trade, they have a keener eye for immediate returns of labor, rather than those obtainable in the earlier processes of apprenticeship. In certain specialties where a few weeks' familiarity with a certain machine or process insures a rapid rise in wages, there is no lack of applicants. The candidates are, however, missing where patient and thorough shop education are insisted on as a preliminary of being an efficient mechanic or artisan. . . . The specialist or simply automatic mechanic, whose apprenticeship is not worth the name, is an escape from what would be manifestly disastrous if old-time apprenticeship was insisted upon. The all-round and thoroughly trained mechanic is perhaps yet to be among the missing in the next generation."⁶⁶

These two articles were in response to a statement, disseminated by the press and widely believed, that the labor-unions were composed largely of foreigners, and wanted to control apprenticeship merely in order to exclude Americans and keep the trades to themselves. A paper by Mr. Powderly read at the convention of labor-commissioners in 1888, contained the following statements: "An apprentice in 1888 does not enter upon the trade as the apprentice of 1858 did. In 1858 the apprentice learned all the 'arts and mysteries' of the trade, while the beginner of to-day is placed at a machine and is apt to be kept at it during his entire term of apprenticeship. If he is skillful, and manipulates that machine to good advantage, he is more likely to be of better service to his employer than if he were allowed to take turns at all of the different branches of the trade; but when his term expires he is of but little use as a mechanic, for should he apply to another employer for a situation he may not be lucky enough to find employment at a machine similar to the one at which he served his term."⁶⁷

There is a very large element of truth in the testimony which we have cited, but there is some exaggeration also.

⁶⁶ *Ibid.*, pp. 254, 255.

⁶⁷ *Report of the Bureau of Labor Statistics of Colorado, 1887-88*, p. 27.

In spite of their tendency to choose other careers, native Americans are very numerous, often in a large majority, in the more remunerative trades. A recent investigation made in Pennsylvania has even established the fact that almost all the apprentices in the 35 occupations studied were Americans. "These figures," says Mr. Bolles, "completely refute the assertion that Americans do not care to learn trades."⁹⁸

The parties to the controversy about regulation.—In the shape it has assumed since the Civil War the dispute about apprenticeship, like so many other social questions, is still pending. As I have said, it has given rise to many strikes and lockouts.⁹⁹

In the building and many other trades, the struggle has been going on for twenty years or more between the unions and isolated employers or groups of employers, although most of the large establishments have been able to maintain their independence. In certain mechanical industries the development of machinery has obviated the necessity of long technical training, and in this way has gradually brought about a negative solution of the problem. In other industries most of the minor establishments have been forced to yield the control of apprenticeship to the unions, in whole or in part, and consent to tacit or formal compromise. In a word, the labor party has gained ground, and it will gain more. It is most desirable that in those industries in which the question has not been settled, some agreement should be reached by the two parties to the controversy. In a number of these trades such an agreement is possible at once or will become so by the force of things.¹⁰⁰

⁹⁸ *Report of the Bureau of Industrial Statistics of Pennsylvania*, 1893, p. 181.

⁹⁹ *First Biennial Report . . . Colorado*, 1887-88, p. 31.

¹⁰⁰ Apprenticeship is on the decline and the labor-unions aspire to control it, in Europe as well as America. See *Final Report of the Royal Commission on Labour*, p. 17.

Whether the subject be the rate of wages or the hours of labor, whether it concern itself with apprenticeship or the work of women and children, one finds in America as in Europe a perpetual antagonism between two parties and two systems: the employer and the employee, individual liberty and state intervention. To-day, while he accepts certain responsibilities and admits the desirability of certain sanitary regulations, the entrepreneur still warmly asserts his independence and his right to remain master in his own industrial household. The laborer seeks to draw authority unto himself, as in the matter of apprenticeship, or, feeling himself too feeble to impose his pleasure upon the employer and knowing his own political power, invokes the authority of the state and in the name of the consumer, the general welfare, and that of the labor party, demands legal regulation.¹⁰¹ In Europe as in America the labor party believes in the success and efficacy of the policy of state regulation. The democratic nature of the American constitution favors the designs of the laborer and gives him a power which he does not possess in most European states. Legislators take sides in this controversy, according as they regard production as a private right or a kind of public function.

To me it seems unquestionable that existing industrial conditions and the development of manufactures necessitate sanitary and police regulations in certain cases which are already, or in the future will be, recognized. Among the legitimate subjects of regulation we may include venti-

¹⁰¹ In the United States, as in France, the labor party demands public employment-bureaus, and one of the recent conventions of the commissioners of labor endorsed this project. (See *Fifth Report California*, 1891-92.)

Montana has possessed a public bureau since 1895. Ohio now has agencies of this sort in five cities—Cincinnati, Cleveland, Columbus, Toledo, Dayton—which in 1893 received 27,000 applications and secured places for 13,000 persons; in 1894 there were 29,100 applications and places were secured for 9800 applicants. [In 1898 there were 25,000 applications, and positions were secured for 17,208 persons.]

lation of buildings, child-labor, protection from machinery and precautions against fire. On the other hand, the conviction is settled among those who recognize liberty and property as essential principles, that adult persons, male and female, are and ought to be free to make whatever contracts of sale or hire they please, provided these contracts be not immoral. They feel, moreover, that legislators are incapable of foreseeing, and hence are incapable of limiting, the forms which these contracts may take, and that each individual has the right to dispose of his property as he sees fit, whether it consists of material or immaterial capital, on the condition that the equal rights of others are not impaired thereby. This dual right, they hold, is a prerequisite of that untrammelled play of economic forces upon which the growth of wealth depends.

To establish a just balance between the duty of providing security, which is incumbent on the state, and the right of action, which belongs to the individual, is a very delicate problem whose terms vary within certain limits in accordance with industrial conditions. The present tendency of democracy is to adopt an authoritative, rather than a liberal, settlement of the problem, and socialists favor intervention because they regard it as the beginning of the confiscation of private property. But however freedom be restrained, legislation will hardly reach the point of suppressing industry, because production must go on, and there will always be a party of opposition. But legislation can clip the wings of industrial enterprise, and we can never afford to forget—I shall speak of it again—that wages are in a great measure dependent upon the productivity of industry and the abundance of wealth.

V.

INTERNAL REGULATION

Discipline in workshops and factories.—The internal regulation of a workshop is different from that regulation es-

tablished by law, and American manufacturers have not waited for the law or the trades-unions to establish rules for them. Speaking generally the industrial discipline in force has been formed naturally by American custom which, in turn, have been derived from English customs. The Anglo-Saxon is essentially a "business man," he busies himself with his own affairs and takes the shortest route to the desired goal. As an employer he expects his men to work, and he rids himself without hesitation of those who are unsatisfactory in this particular; as a workman he is exacting in many respects, but realizes that he should work hard during working-hours.

Both the rules established by local law and those framed by individual employers, are usually placarded in the workshops: this is required by law in most states. These rules of work, which are naturally different in different industries and establishments, I shall illustrate by a single example taken from the largest locomotive works in America. In this establishment every workman must begin work when the signal is given; one hour's wages are deducted if the workman arrives after seven o'clock in the morning, if he is late after the noon meal-hour, or if he quits work before the signal is given at six o'clock. Those who have to leave before this time must notify the foreman and the time-keeper, under penalty of losing a day's wages. Workmen are paid each week for the amount of work done up to six p. m. on the preceding Saturday. The rate of pay for Sunday is twenty-five per cent. higher than the ordinary rate, but no advance is given for ordinary night-work.

Upon entering, every workman or employee must have his name registered. Piece-workers, as well as time-workers, must furnish the time-office with a detailed account of their work and assure themselves that the account of the office is similar to their own. Every Saturday after hours, the workman receives an envelope containing his money and an account of his time.

The work is given out to the foremen at prices fixed by

the establishment, and the foremen themselves settle with the workmen in their respective gangs. Any piece-worker who begins a piece of work must finish it, whether he is working alone or with assistants. Defective products and spoiled materials are charged to the workman. The latter is held responsible for the tools entrusted to him and must return them in good condition when he leaves the company. Materials must be used economically and the machinery and shops must be kept clean. Workmen are not to call upon the ordinary laborers for work which they can do themselves. During working-hours, smoking and reading are prohibited. The youngest boys make about \$2.16 per week, from which point their wages gradually rise. At the age of sixteen or seventeen years they may be put in charge of a machine in the department in which they have been trained. From this position they rise by degrees. Mr. Baldwin has been dead more than thirty years, and in 1893 the members of the firm, with one exception, had all been apprentices in the works. It seems that it is not rare, in Philadelphia, to find workmen who have thus elevated themselves to the ranks of the employers.

There has not been a strike in the Baldwin Locomotive Works since 1832, as good wages are paid: \$65,000 each week for 5,000 persons, or about \$13 per workman. The prime wages of foremen are not very high, but at the end of the year they receive a sum proportioned to the work done under their direction. The company acts as a savings bank for their employees and pays five per cent. interest on deposits, with the privilege of withdrawal at pleasure.

Workmen who use obscene or profane language or who quarrel and fight are immediately discharged.

There is nothing in the internal regulation of these works which would be strange or out of place in any establishment of the kind in Europe or America.

There is no smoking and, as I have said, no useless talking in American workshops. One of the French labor-

delegates found one regulation which read: "Conversation is prohibited, except with the foreman and for the good of the service";¹⁰² and he remarked that the rule was strictly observed. I may add that this is the case all over the country. The speed of the machines and the activity which it is necessary to display, leave no time for leisure or dawdling, even if the Anglo-Saxon temperament were favorable to these diversions.

Even in times of excitement the American laborer preserves his composure. The French delegates visited one establishment just as the men were leaving to go on a strike. "The men were leaving the shops," they write, "having identified themselves with a gang of weighers whose wages had been reduced. They quit without any noise or tumult; one felt that each man was weighing the consequences. The act seemed to be one of mature reflection, not of passion."¹⁰³

I myself noticed the silence in the workshops which I visited. I noticed it even in the midst of popular disturbances. In Chicago I witnessed a riot created by a crowd of unemployed workmen, most of whom were probably foreigners. There was a good deal of jostling and a few blows were struck, but there was no hubbub.

The French workman has a different character. He is a hard worker and always ready to put his shoulder to the wheel, but he does not like to be gagged. The bronze-worker of the French delegation compares the American workman with the French.¹⁰⁴ "Work in the American

¹⁰² *Rapports de la délégation ouvrière*, p. 297.

¹⁰³ *Ibid.*, p. 13.

¹⁰⁴ I find the counterpart of this opinion in an article published in the *American Federationist* (Indianapolis, vol. iii, No. 3), by Mrs. Eva McDonald Valesh, who was present at the congress of the *Union des Chambres Syndicales Ouvrières* at Marseilles in 1896. "The Frenchman does not work very hard. He takes life rather leisurely. There are a multitude of industries in which hand labor still prevails. While there are many large factories, machinery has not so generally supplanted hand production as in the United States. Even when operating a machine, the workman does not

shops is altogether different from what it is in France. Nobody talks, nobody sings, the most rigorous silence reigns. The men come and go by the clock, a half-hour is given for the noon-day meal; the week's work is fifty-eight hours in summer and fifty-nine in winter. To get off for a while one has to go through with the greatest amount of red-tape. The French workman is isolated in the midst of a crowd of workmen who do not try to make life pleasant for him; the foreman surrounds him with young Americans who spy upon him. But the American artizan is in his element: conversation and the noise of laughter would distract him."¹⁰⁵

Most American workrooms are well-kept, especially in buildings which have recently been erected. This is another point with which the French delegates were impressed. "We have discovered in our visits to industrial establishments," says one of them, "that hygienic precautions are the object of constant attention on the part of manufacturers. This attention to health is general, the difference among different works being one of degree only. It would be desirable to see our French employers observe their minimum at least; this would be a large step forward. In addition to the attention to hygiene, we have also noticed the precautions taken against fire. Buckets of water, together with axes and saws are found inside the buildings, on each story. Even in railroad cars these articles are found. It should be said that these precautions are obligatory and form a part of insurance contracts. On the exterior the different stories are connected by iron stairways."¹⁰⁶

rush. He will stop the machine while he chats with a fellow-workman. Occasionally he takes ten minutes off for a cigarette or a glass of wine. If a workman were deprived of this privilege the whole factory would strike. They particularly object to any importation of American high-pressure rates of industry. They ask me why our people do not make a stand against the hurry and rush of our factory system." *American Federationist*, vol. iii, No. 3.

¹⁰⁵ *Rapports, etc.*, p. 177.

¹⁰⁶ *Ibid.*, p. 31.

I might multiply illustrations. The delegates who visited the great works of Brown, Sharp and Co. at Providence, say: "In all our visits in the United States, it is certainly here that we have seen the best organized shops, the improved machinery and the special disposition of the buildings permit the work to be done under the most economical conditions."¹⁰⁷ The foundry excited our admiration, as much by its cleanliness as by its perfect arrangement. The floor was paved with iron plates." The delegates add that bath and toilet-rooms were at the disposition of the workmen.¹⁰⁸ In one electrical power-house, the delegates explain, each workman has a locker in which he keeps his clothes: when the key is inserted in the lock it automatically registers the hour of his arrival.

Ordinarily the rules provide that the fines imposed upon workmen shall accrue to the employer as damages. In some cases a small part of the wages is retained in order to provide medical attendance in case of sickness—a practice which would hardly be permitted by French custom.

Nevertheless, in America as elsewhere, the rules are not always enforced and the condition of the workrooms is not everywhere beyond criticism. It is the large establishments and the model workrooms which are shown to the visitor, and it is only occasionally that he finds his way into the inferior establishments. Defective plant is not at all rare in old factories.

Thus the French workmen representing the goldsmiths and jewelers report that "in the old factories the most elementary precautions against accidents are rarely taken. We have seen dangerous machines, crowded one upon the other, without separation, with no guards around the exposed gear. . . . So much the worse for any one who comes in contact with it."¹⁰⁹

Testimony from American sources is not wanting on this subject. I quote from the *Third Report of the Commissioner*

¹⁰⁷ *Ibid.*, p. 78.

¹⁰⁸ *Ibid.*, p. 418.

¹⁰⁹ *Ibid.*, p. 249.

of *Industrial Statistics of Rhode Island*, a few remarks of working women upon the condition of factories in that state. "There are very young children employed in the mill where I am employed" said a weaver, "and I think in all factories in this section. Some of them, I am sure, never see the inside of a school house." Said another weaver: "In regard to mills they differ very much as to rules. . . . One mill that I know of expect women weavers to produce as much as a man, and refuses to let either women or men out in case of sickness. The fines in this mill are heavy; . . . the help cannot wash up before or after the bell rings." A winder wrote: "In case of fire we could not get out of the mill, because there is a heavy wire screen nailed upon all the windows." "I work in a room where there are 273 employed," said a shoemaker, "there are but four escapes to get out on, and they are impossible to reach on account of the railing around the ladder and the distance from the windows." Another weaver: "The refuse remains in the vaults all the week, being emptied on Saturday only. . . . There are no rules against the help sitting down, but there are no stools to sit on." A drawer-in: "The laws regulating the employment of children are openly defied. It is shameful and degrading to human kind to witness the spectacle presented to the eye in the carding, spinning, and mule rooms." A cardmaker: "The child-labor laws are totally disregarded, as is the ten-hour law."

It would be unjust to close the chapter with these criticisms, because they fail to give the characteristic note of American methods. I choose rather to conclude with the words of a competent French authority, Mr. Arbel, to whom the organization of the labor force in the Bethlehem works seemed very practical. "They act upon the principle that a workman should never be taken from his specialty, and that as far as possible he should be kept making the same thing. The result is an extreme rapidity of production. Moreover the tools are never repaired by the workmen who use them, but by a special corps who work

according to fixed rules. . . . On entering the shop each workman receives a set of the tools he must have, and more than ten checks with which he can obtain fresh tools when the first ones get dull or out of order. There is not a grindstone in the general workshop, and the men thus have no excuse for leaving their work. This system is carried to such an extreme in shops which I saw, that a squad of boys is kept to carry tools to the men; each machine has a regular number and an electric bell, and when the man in charge of the machine wants a new tool he sends a check to the tool room in exchange for which the new tool will be given."¹¹⁰

¹¹⁰ *Rapport sur l'Exposition de Chicago*, by P. Arbel.

CHAPTER IV.

ORGANIZATIONS OF LABOR



Early American Unions.—Traces of associations of laborers have been discovered as early as the beginning of the present century. Thus, the ship-carpenters of New York organized a strike in 1803, the tailors had formed a union as early as 1817, the hatters organized in 1819, and in 1822 an association of shipwrights and calkers received a charter of incorporation in Boston. Actual proof of the organization of unions, however, is not to be found earlier than the period 1825-1830 in which the Evans brothers advocated the distribution of the public lands in the *Workingman's Advocate* of New York. In 1830 trades-unions were so numerous that a general convention was called, and this assembly was followed by several others of the same kind. As a rule, the employers regarded these attempts to organize with disfavor, and most of the unions disappeared during the crisis of 1837. But new ones were soon formed. In 1845, for example, the New England Workingmen's Association, which advocated among other reforms the amelioration of the condition of women and children, held its first annual convention in Boston. The crisis of 1847 played havoc with the unions as the crisis of 1837 had done. But there was a second revival, and it was during this renaissance that the unions grouped themselves into national and international organizations, which, after they were formed, turned themselves to the organization of branches in those districts to which the spirit of solidarity had not penetrated. These associations passed through the crisis of 1857 with great difficulty and with greater difficulty still, through the

crisis of 1873. When work is scarce, the workmen have but little inclination to discuss the wage-problem and but scant means wherewith to support their unions.

The War of the Rebellion, far from discouraging the organization of labor, stimulated it, as it did the general progress of industry in the North. The National Typographical Union had been formed in 1859, the hatters' union in 1854, the association of blacksmiths and mechanics in 1859, that of the locomotive engineers in 1863, the cigar-makers' union in 1864, those of the bricklayers and tailors in 1865, and the organization of shoemakers in 1866. The latter year saw the convocation at Baltimore of the first great labor-congress, brought about by the trades-unions which at that time existed in about forty trades and industries.¹ The International Workingmen's Association, founded in London in 1864, had not been without influence upon this movement, but its effect was very limited and ceased altogether after the Paris Commune in 1871.

Great disturbances followed the crisis of 1873, and strikes occurred all over the country. A very prominent part in this agitation was taken by the textile workers of New England, who had had no organizations up to this time. During the struggle many unions were formed, but they disappeared with the occasion which had called them into being.² Before this time a number of important unions of iron-workers had been formed: The United Sons of Vulcan in 1858; in 1872 the Associated Brotherhood of Iron and Steel Rail Heaters, which succumbed to the opposition of employers and internal dissensions; and in 1873 the Iron and Steel Roll Hands' Union. In 1876 these and other organizations were united in the Amalgamated Association of Iron and Steel-Workers of the United States, which after passing through many initial difficulties seems now to rest upon a solid basis.

¹ A list is given by Mr. McNeill in *The Labor Movement*, p. 128.

² *The Labor Movement*, p. 153.

Such has been the history of a number of other organizations. Many are still struggling with the maladies of infancy. Many, on the other hand, have become very important. As a general statement, it may be asserted that the labor-union has made great progress in the United States during the last twenty years and that it is now strongly rooted in the customs of the laboring people. Thus, in 1880, the carpenters' union of Chicago contained only 400 out of the 6000 carpenters of that city. In 1893 the membership numbered 12,000, a very large majority of the whole body of carpenters. In the State of New York, out of 695 unions responding to an inquiry of the Commissioner of Labor, only 88 had been founded before the year of 1880, while 507 had been founded between 1880 and 1894. In the West, where the democratic movement has not been counterbalanced by other influences, the union is particularly popular. In Colorado, for instance, where there was not a union until 1860, the proportion of labor-unions to the whole population was greater in 1888 than in any other State.

England has been the model. English immigrants have always brought with them the spirit of organization; often they have remained affiliated with the trades-unions to which they belonged at home. The union has sometimes been denounced as the creation and the creature of immigrants. That they have favored the immigrant at the expense of the native workman is untrue; at least there are many unions which furnish evidence to the contrary. Thus, the glass-workers charge an entrance fee of \$100 to all except American-born candidates. As for the rest of the accusation, it is not denied that the ideas which circulate among the working classes cross the ocean with the tide of immigration. But America is now such an active center of social movements that she, in turn, may lay claim to the distinction of rousing old Europe.

In Philadelphia in 1870 an association was organized in

an obscure way, which has from the very beginning affected the charms of secrecy: the Order of the Knights of Labor. The active career of this organization did not commence until three years later, and for a dozen years or thereabout, until it had been discredited by political defeats, by religious differences and by quarrels with other organizations which it had tried to subject or supplant, its career was very active and even brilliant. But another organization with a different platform, the American Federation of Labor, took its place. It musters on its roll thousands of local unions, and counts its adherents by the hundreds of thousands. In 1893 a third great federation was planned by the employees of railroads.

In the organization of labor in America, several stages are presented which it is necessary to differentiate: (1) local unions, which are usually composed of workmen following the same trade in the same locality; (2) national or international unions^{*} which include all or a large part of the local unions of one trade, though they are sometimes formed of the local unions of a group of allied trades; (3) district unions; (4) councils of the building trades which in several large cities effect a combination of the local unions of the building trades; (5) the two great federations—the Knights of Labor and the Federation of Labor—and the five associations of railway-employees which, with the object of concerted action, have united or are uniting a great number of assemblies, lodges, and national or international unions.

Liberty and the law.—In the United States the freedom of association is unrestricted; it is one of the rights guaranteed to each individual and is entrenched in the customs as well as the constitutions of the country. Workingmen have no trouble on this score; they can unite and organize as they please. But the privilege of securing corporate

^{*} *National* when they do not extend beyond the United States; *international* when they include local branches in another country. The foreign unions are usually Canadian, but sometimes Mexican.

rights is not granted to labor organizations in every American State.⁴

Massachusetts passed a law in 1888 which confers corporate rights upon associations of seven or more persons united for the purpose of improving by lawful means the condition of employees, either in respect to their employment, or by the payment of benefits to members when sick or unemployed, or to persons dependent upon deceased members. This law specifies certain provisions which shall be clearly determined in the by-laws of incorporated labor-unions, and instructs the commissioner of corporations to approve the certificate of organization when he is satisfied that the by-laws contain no provision contrary to law and the purpose of the association is a lawful one. The law further provides that no by-law shall be changed or rescinded unless notice of the proposed action has been given at a previous meeting of the union, and that no such change shall take effect until it has been approved by the commissioner of corporations.

In 1880, Iowa granted the right of incorporation to temperance societies, and to trades-unions and other organizations of labor; Michigan passed similar laws in 1882; and in 1887 Wyoming expressly included the Knights of Labor among those associations entitled to corporate rights. A similar law was enacted by Louisiana in 1890 and later, by several other States. A majority of the States have formally guaranteed labor-unions exclusive property in the labels or trade-marks adopted to designate their own products.

In 1892 the legislature of Ohio passed a law which made it unlawful for any employer or the agent of any firm or cor-

⁴ On this subject see Stimson's *Hand-book*, p. 168. "While the general corporation acts did not expressly mention such associations, they could not, of course, organize as corporations or joint-stock companies; but the association, regarded as a voluntary association for whose obligations each member might become liable, was always perfectly legal in all the states of this country. . . ."

poration to prevent an employee from joining or belonging to any lawful labor-organization, and provided that attempts to prevent employees from connecting themselves with such organizations, by discharge or threats of discharge, should be treated as misdemeanors subjecting the offender to a fine not to exceed \$100 and imprisonment for not more than six months. A number of other States, including New York, Massachusetts, Wisconsin, California, Idaho, Illinois, Indiana and Missouri, have made it unlawful to discharge an employee for affiliating with a labor-organization or to exact contracts in which the employee pledges himself not to join such organization. Wyoming even makes it a misdemeanor to discharge an employee because of his nomination for public office.

The Missouri law was approved March 6, 1893. Shortly afterwards, George Julow was fined \$50 by the St. Louis court of criminal correction for discharging an employee because of his refusing to withdraw from a union. He appealed the case to the Supreme Court of Missouri which in a decision handed down on the eighteenth of June, 1895, declared the law unconstitutional. "If an owner . . . obeys the law on which this prosecution rests," said the court, "he is thereby deprived of a right and a liberty to contract or terminate a contract, as all others may; if he disobeys it, then he is punished for the performance of an act wholly innocent, unless, indeed, the doing of such act, guaranteed by the organic law, the exercise of a right of which the legislature is forbidden to deprive him, can by that body be conclusively pronounced criminal. We deny the right of the legislature to do this."⁵

In the session of 1885-1886, after having been petitioned by the Brotherhood of Locomotive Engineers as early as 1871, Congress finally passed a law for the incorporation of national trades-unions, which defined the term "National Trade Union" as "any association of working people hav-

⁵ *Bulletin of the Department of Labor*, Jan., 1896, p. 207.

ing two or more branches in the States or Territories of the United States for the purpose of aiding its members to become more skillful and efficient workers, the promotion of their general intelligence, the elevation of their character, the regulation of their wages and their hours and conditions of labor, the protection of their individual rights in the prosecution of their trade or trades, the raising of funds for the benefit of sick, disabled, or unemployed members, or the families of deceased members, or for such other object or objects for which working people may lawfully combine, having in view their mutual protection or benefit." Upon filing their articles of incorporation such a national union becomes a corporation with the right to sue and be sued, to grant, receive, and use real and personal property, provided that only so much real estate is held, as is required for the immediate purposes of incorporation. The headquarters of an incorporated national trade-union must be located in the District of Columbia.

This legislation has been enacted in the United States within the last twenty years, and was synchronous with the movement which led to the formation of the great federations of labor. Little by little it enters into the customs of the people and in several cases the courts have ratified acts of labor-unions done in conformity with their by-laws.* If it be the object of law to voice the needs and embody the customs of the people, the legalization of trades-

* In 1896, Lucien Conterno, a master-musician of New York city, engaged for his troupe a cornet and a clarinet who were non-union men. Having refused to discharge the men at the command of the musical union to which he belonged, he was first fined \$100 and then suspended. He brought suit against the union for \$5000 damages. The court decided that trades-unions are authorized by law and possess the right of regulating the wages and hours of labor of their members; that such unions may prohibit members from working with non-unionists and enforce their prohibitions by fines; that a court of equity will not revise the judgments of such associations when these judgments have been rendered in conformity with their by-laws and after the offenders have been heard in their own defense. *American Federationist*, March, 1896.

unions has now become a necessity, and it is probable that sooner or later all the manufacturing States will follow the example of the federal government. But it is regrettable that the law which furnishes the model should confer a privilege without demanding an equivalent return. National unions may acquire a legal personality by merely filing their articles of incorporation; no other declaration is required, and no responsibility seems to be imposed upon any one. National unions may change their regulations at pleasure, they are not required to report their financial conditions, a dozen people are enough to constitute the two necessary branches, and as no names have to be published, the leaders are absolutely irresponsible. Such laxity simply opens the door to schemes and schemers.⁷

Local unions.—There is probably not a single town of any importance in the United States, which does not contain one or more labor-unions. In Chattanooga, a southern city whose manufacturing industries are of recent introduction, I counted twenty-two unions of various kinds. A national union often has several local unions in the same town. Among the carpenters of Chicago, for example, in 1893, there were 23 unions of the United Brotherhood, 5 branches of the Amalgamated Society, and 4 assemblies of the Knights of Labor.

In December, 1892, the American Federation of Labor included 7031 local unions united in 79 national or international organizations, and 1500 local unions not united in a national association.⁸ The report of the Federation stated that there were in addition several thousand local unions in the United States, unaffiliated either with the Federation or with any other national association. Other authorities place the number of local unions in the United States at 12,000.

Local unions that belong to national organizations make

⁷ Such is the opinion of Mr. Edward Cummings. See *Quarterly Journal of Economics*, July, 1895.

⁸ In December, 1899, it included 71 national unions, 11 State branches, 110 city central unions and 674 local unions. [Tr.]

what rules they please, provided they are not contrary to the general law of the national union. Their revenue is made up of entrance-fees and members' dues. Most of them act as mutual aid societies, paying sick-benefits and, in case of death, the funeral expenses, together with a certain sum to the family. They also insure against strikes and non-employment, most of them having funds reserved for these purposes.

The Brotherhood of Painters and Decorators recommends local unions to procure a permanent office and a library, to have meetings at stated times, and to establish amicable relations with other organizations. Unions are instructed to have a president; a vice-president; two secretaries; a guide, who among other duties must demand the pass-word from each member participating in the evening exercises; a guard, who is placed at the door and takes care that no one enters without giving the pass-word; and in case it is necessary, a sentinel to remain outside of the door. There must be at least three trustees to whom is entrusted the property of the union. These dignitaries—the number seems rather excessive—are elected for six months and receive stipends. The members of the committees are appointed directly by the president, in imitation of congressional procedure.

In illustration, the following items may be cited from the accounts of the New York Typographical Union No. 6, which is one of the most important and best organized local unions belonging to the International Union. This union, which possessed 4936 members in 1896, is administered by a staff consisting of a president, a vice-president, a secretary, a treasurer, a sergeant-at-arms, three trustees, three auditors, an executive council and other committees. It is divided into as many "Chapels" or small groups as there are typographical establishments represented.* Each year the secretary and treasurer present a detailed report of the monthly

* 190 Chapels in May, 1900. [Tr.]

receipts and expenditures, which is printed and distributed among the members. The gross receipts for 1891-92 amounted to \$38,304, of which \$27,005 came from the regular dues, \$606 from special assessments, \$1800 from bequests, etc. The expenditures amounted to \$38,700 of which \$9783 was paid to the International Union, \$8969 for funeral benefits,¹⁰ \$4315 for the Childs-Drexel Home, \$3350 for salaries, etc.¹¹

The number of women in the unions is still relatively small. But it is increasing. In New York for instance, in July, 1894, there were 7488, and in July, 1895, 10,102 female members, distributed among 180,231 unions. There are some unions composed exclusively of women.¹²

The councils of the building-trades.—In America, as in England, there are in certain cities "district unions," federations of all the local unions of a particular trade within certain territorial limits, and in several of the largest cities there are councils of the building-trades, which connect the local unions and exercise a certain amount of authority over them. Thus the Council of Boston has under its jurisdiction 45 unions. Every three months each member of these unions is presented with a "working card," which he must carry with him, and be ready to exhibit at the demand of any other member. A sufficient idea of the nature of this institution may be obtained from the brief account of the Building Trades Council of Chicago and Vicinity, which follows.

¹⁰ The death-benefit is \$150.

¹¹ The total receipts for the year ending July 25, 1899, were \$92,357.83, of which \$33,565.34 came from dues; \$43,573.79 from assessments; the remainder from fines, initiation fees, etc. The disbursements amounted to \$89,035.55, of which \$14,935.11 were for general expenses, \$32,925.27 for "out-of-work" benefits, \$10,950.60 for funeral benefits, \$18,808.04 for the tax paid to the International Union, \$1461.90 for the hospital fund, \$165.26 for strike benefits, etc.

¹² These unions are most numerous in the manufacture of clothing, shirts, and cigars. See *Summary of the Thirteenth Annual Report of the Commissioner of Statistics of Labor*, New York.

The objects of the council, says the constitution, are to centralize the efforts of the building-trades, and to form a compact body which shall oppose common foes and promote undertakings of common benefit. The council is composed of five delegates from each trade, who are elected for six months, prohibited from holding political office, and who must be workmen. The dues are ten dollars, payable at first as an entrance-fee and afterwards in case of need. The staff includes a president, a vice-president and seven other officers, not more than one of which can be elected from the same trade. No officer can vote on matters exclusively affecting his own trade. When a trade desires an increase of wages or a reduction in the number of hours, it must present a detailed statement at least two weeks before it intends to take action, and the matter is then laid before the several trades represented by the officers of the council. If the demand is approved by two-thirds of the trades, all must unite solidly in the effort to enforce it. Unions, however, have the right to undertake such movements at any time on their own responsibility.

If a difference arises grave enough to cause a strike, an effort should be made to settle the affair with the employer by consultation or arbitration. In case this fails the members are called together, and if two-thirds are in favor of the strike, it is declared. Affiliated trades ought not to interfere in the affairs of outside trades, and the assistance of the council can only be given to affiliated trades. However, members must make every effort to induce unaffiliated workmen to join some union. Every three months the council delivers to the unions the working-cards, marked on one side with the stamp of the council, on the other, with the stamp of the union. A chief inspector and two assistants look after the shops to see that only union men are employed.¹³ One of the most prominent features of this kind of organization is the sympathetic strike.

¹³ *Constitution and By-Laws of the Building Trades' Council of Chicago and Vicinity*, Chicago, 1892.

There are also State federations, very similar to the district councils, which serve to confederate the unions of a single State.

National and international unions.—The national or international union is a federation of local unions of the same trade. It is called "a national union" when it does not extend beyond the boundaries of the United States, an "international union" when it extends to another American country. The most numerous connections of the latter sort are with Canada. I shall note as the first example, the association of typographers.

The International Typographical Union is one of the oldest of this class.¹⁴ Its existence as a national union dates from the year 1850, when it was formed at New York by the local unions of New York, New Jersey, Pennsylvania, Maryland, and Kentucky, several of which had then been in existence nearly twenty years. The formal organization was effected at Cincinnati in 1852. The objects of the association were to establish "an understanding in the regulation of scales of prices in different localities," to enforce "the principle of limiting apprentices," to issue "traveling certificates" to craftsmen journeying from one place to another in search of work, to exclude disgraced members of the profession, and gradually to collect enough money to enable the union to hold out successfully in case of "a contention for higher wages." In 1869 the organization admitted a women's typographical union and adopted the title The International Typographical Union of North America; since that time at least two of its sessions have been held in Canada. In 1893 the organization was composed of 332 local unions, almost all printers' unions, but some of type-founders and binders. The total membership exceeded 26,000,¹⁵ about nine-tenths of the total number of typograph-

¹⁴ See *The Labor Movement*, ch. vii.

¹⁵ It was only 15,000 in 1883. In 1892 the exact figure was 26,612. There were 3886 male and 1404 female printers in localities in which there were unions, who did not belong to a union. There

ers in those localities in which there were unions. In 1896 the membership was nearly 32,000.

The International Union is administered by a president, who receives an annual salary of \$1400, three vice-presidents, a secretary-treasurer, and sixteen organizers—one in each of the districts of the United States and Canada—whose duties are to secure new members, and to aid with advice the local unions of their district. In some States the local unions are grouped in State unions.¹⁶

The local union, which must have at least seven members, is autonomous to a large degree. Its revenue is employed in paying dues to the International Union, in aiding other unions, in paying benefits to the families of deceased members and to those who are sick or out of work, etc. In the fiscal year 1892-1893 the International Union collected about \$126,000, of which \$120,000 were expended in sustaining strikes and lockouts, supporting the Childs-Drexel Home, assisting old and infirm printers, paying funeral expenses, and in publishing the Typographical Journal.¹⁷

were 706 women in the union, and 306 machine-compositors, of which 61 were not ordinary printers. The number of deaths in the year was 433, about 16.3 per thousand, which seems rather high as the union is composed of adults.

[According to the President, Samuel B. Donnelly, the membership was about 38,000 in 1899. The International Printing Pressmen's Union, with a membership of about 12,000, and the International Brotherhood of Bookbinders, with a membership of 8000, act in conjunction with the International Typographical Union in important matters, thus bringing the aggregate membership to nearly 60,000. *Hearings before the Industrial Commission on the Relations and Conditions of Capital and Labor*, p. 268 et seq.]

¹⁶ The International Union now has six vice-presidents, and an additional organizer in the West Indies. [Tr.]

¹⁷ The receipts of the International Union for the fiscal year 1899 were \$155,718.52: about \$27,000 balance from the preceding year, \$110,000 from the *per capita* tax upon members, \$8000 from a special five-cent assessment, etc. The total expenditures amounted to \$123,502.80; \$27,000, in round figures, for strike and lockout benefits, \$26,000 for burial benefits, \$38,000 for the Childs-Drexel Home, \$10,000 for the Typographical Journal, etc. [Tr.]

The International Union holds an annual session whose proceedings, together with other collateral papers, are published. I have before me the report of the fortieth session held in the Drexel Institute at Philadelphia in 1892. The session opened on the thirteenth of June. After the benediction had been pronounced by a clergyman and the addresses of welcome from the Governor of Pennsylvania and the Mayor of Philadelphia had been read, delegates were presented from 317 typographical unions, and the 18 unions of pressmen,¹⁸ stereotypers, binders, etc., which are admitted to the general assemblies without participating, however, in all the benefits of the union.¹⁹ The committees were then appointed by the president, in accordance with a procedure similar to that followed in the Congress of the United States. Finally the work of the Assembly was opened by an address from the president, which was followed by the reading of reports from organizers and delegates. The proceedings lasted six days: American workmen, like the English, are very fond of deliberative assemblies.

When a difference arises between employers and a local union, the latter must notify the organizer of the district who hastens to the scene to make an investigation and if possible to effect an amicable settlement. If the attempt is not successful, he immediately informs the officers of the International Union, who decide, after an examination, whether a strike should be authorized. No subsidies are granted unless this approval has been given. Union Number 6 and a few other important unions have reserved the right of ordering strikes on their own account.

The International Union is very powerful, but not all-

¹⁸ The pressmen and binders have since formed independent, but friendly, international unions. [Tr.]

¹⁹ In 1899 the Typographical Union included 429 chartered locals—355 typographical unions and 77 unions of various allied crafts. The paid-up membership was 30,646, although the president asserted that it was "safe to estimate the entire number of persons who consider themselves members of the I. T. U." at 38,000. *Report of the Proceedings of the Forty-Fifth Session*, p. 63. [Tr.]

powerful. Probably nine-tenths of the male typographers belong to the union, but a majority of the female typographers are still outside the union, and in addition there are rival organizations. The National Union of Typographers of the German Language, founded in 1873, counts about 1400 members and has a larger budget than the International Union.²⁰ There are also rival associations, such as the small union of pressmen which is affiliated with the socialistic federation.

The Cigar-Makers' International Union was formally organized at New York in 1864 by the combination of twenty-three local unions.²¹ This association has passed through periods of great difficulty—in the great strike of 1877 more than 1000 families were dispossessed of their homes by the sheriff—but since that time the union has become very strong; in 1893 it included 316 local unions and 27,100 members.²² This organization authorizes no strike unless it is approved by two-thirds of the local unions. As the dues are high (25 cents per week, and more than \$1 a year for death-benefits), it can afford to pay \$5 a week as a sick-benefit; \$3 a week, for six weeks, to strikers; and from \$50 to \$500 at the death of a member; in addition it makes loans to "the traveling fraternity." No member of the union is allowed to work in a shop in which non-union men are employed and persons of the white race only are taken into the organization. Successful struggles have been made against Chinese and tenement-house labor, which reduce the cost

²⁰ But, in addition to the quotas of the local unions, the national union also receives 25 cents a week from each member. Moreover, the budget is not always a measure of the power which a union can exercise. Thus, Union No. 6 can greatly increase its revenue in case of a strike by levying extraordinary assessments.

²¹ The first union was formed at Baltimore in 1851. In 1854 a State convention was held at Syracuse by the cigar-makers of New York, in which an attempt was made to establish a uniform bill of prices. Many manufacturers were present, and took part in the deliberations.

²² See *Labor and Capital*, i, 449. The membership numbered about 15,000 in 1883 and 30,000 in 1896.

of manufacture, and in behalf of the eight-hour day, which seems to have been obtained in the year 1886.

The Brotherhood of Painters and Decorators was formed in Baltimore in 1887. The objects of the organization, the constitution states, are to elevate the workmen, strengthen their position by union, revive the apprentice system, cultivate the feeling of fraternity, aid members to secure employment, reduce the hours of labor, and provide assistance in cases of death and infirmity. About 20,000 workmen, a very small percentage of the whole number in the United States, belonged to the brotherhood in 1893.²²

I have before me the by-laws of this organization, revised by the general assembly held in St. Louis in 1892. At least seven members are necessary to form a local union, which secures certain supplies and a charter of incorporation from the brotherhood on the payment of \$10. There may be several local unions in the same city, and these are competent to form a district union. To become a member it is necessary to be more than twenty-one, and in order to obtain full rights, less than fifty years of age; persons of bad health or character, and workmen who have been expelled from another local union, are not admitted. Merchants and employers may be admitted if they do not belong to another association, and during the last year of his term an apprentice may participate in the exercises, although he has not the right of debate. Every application for admission is examined by a committee of three members and the applicant is admitted if two-thirds of the votes cast are in his favor. The initiation fee is \$2, and the minimum dues are 35 cents a month, of which 10 cents goes to the brotherhood. Every member must be provided with a receipt for his monthly dues, signed by the secretary, and a card bearing his name,

²² There are also other organizations in this trade. Quarrels have occurred more than once between union and non-union workmen. In the winter of 1892-1893 certain members of the brotherhood in Chicago attacked a body of workmen who were not members of the union, and killed two of them.

the date of his election and his entrance number. In cases of sickness and accident the benefit is fixed and paid by the local union; in case of death or permanent disability it varies, according to the length of membership, from \$50 to \$150, and on the death of the wife of a member, from \$25 to \$50.

The brotherhood holds a general assembly every two years. The officers consist of a president, a vice-president, a secretary-treasurer, and an executive council. When a difference with an employer arises, the case is first referred to the president of the local union involved, who appoints a committee of arbitration to confer with the employer or employers. If an agreement is not reached in this way, and the union decides, by secret ballot and a two-thirds majority, that the workmen should be sustained, the president sends a report to the executive council of the brotherhood, which in turn decides whether a strike shall be declared. It is illegal to maintain more than one strike at a time.

When a strike is regularly declared the executive council fixes the contribution to be made by the local unions, and orders them, under penalty of expulsion, to send this quota each week. From the fund thus created \$5 per week is sent to each member of the striking union. By means of special levies the brotherhood has already amassed a "protective fund" reserved for extraordinary emergencies. Any member of a union who works at his trade while the union is out on a regular strike, is subject to a fine of not less than \$5.

The Amalgamated Association of Iron and Steel Workers, founded in 1876, has grouped in a very strong union the organizations in these trades which existed prior to that year. In 1892 the association included 292 lodges and 45,000 members.* The supreme authority rests in the central organization, and no independent lodge is admitted.

Every subordinate lodge names a number of representa-

* 42,000 in 1883; 40,000 in 1896. The central office is at Pittsburg.

tives proportional to its membership. Every third month the president gives the pass-word, which it is necessary to have, in addition to the card, in order to enter a meeting of the lodge. With these exceptions there is nothing secret in the association. A subordinate lodge cannot declare a strike, but when the executive committee of a district authorizes a strike in one shop the workmen in all other shops of the district must stop work. "In Union there is strength," reads the declaration of principles of the association. "Single handed, we can accomplish nothing; but, united, there is no power of wrong we may not openly defy. . . . Nor can injustice be done to any one; no undue advantage can be taken of our employers. There is not, there cannot be, any good reason why they should not pay us a fair price for our labor. If the profits of their business are not sufficient to remunerate them for their trouble of doing business, let the consumers make the balance."²⁸

It is much easier to dictate terms to a small manufacturer or an unorganized body of builders than to the immense establishments with which this association has to deal, and at times the struggle has been maintained only with the greatest difficulty; not a strike was held between 1882 and 1892, the year in which the Homestead strike was declared. Six dollars a week are allowed to workmen who have been discharged for connection with a union, and four dollars a week to strikers, from the third to the fifteenth week. Though the efforts of a mixed committee of employers and workmen there has been established a piece-rate scale of wages which has been revised several times by common consent.²⁹ The association concentrates its activities upon the relationship between employers and workmen; it pays no sick- or death-benefits.

²⁸ "The Associated Iron and Steel Workers," by Carroll D. Wright. *Quarterly Journal of Economics*, July, 1893.

²⁹ Col. Wright, in the article cited, quotes a scale of prices adopted in 1865 by the iron-boilers and their employers, which is perhaps the earliest agreement of this kind in the United States.

The workmen affiliated with a union usually obey the orders of their leaders without demur and at the signal quit work and strike. But it must not be supposed that trade-unionism in America has escaped the democratic spirit which animates the American people: there are unions which employ a certain form of referendum when they have to decide an important question. Mr. J. W. Sullivan²⁷ mentions ten national or international unions which have adopted this method, among which are included the Typographical Union, the Brotherhood of Carpenters and Joiners and the Cigar-Makers' Union. The constitution of the United Garment-Cutters' Association of America provides that the general executive must submit to a vote of the local unions, all questions in which this procedure is demanded. The Cigar-Makers' Union also have a similar provision in their constitution, adopted in 1877 when the constitution was revised. This union has gradually extended the referendum until at present it submits to a vote of the separate unions all amendments, all executive orders, and the resolutions passed by the conventions. At the Indianapolis convention of 1891, 147 motions were adopted in September, printed in the official journal, and voted upon by the local unions in October.

The Knights of Labor.—From its very beginning this organization has been essentially a secret society. It was founded at Philadelphia in 1870 by seven members of a garment-cutters' union which had finally dissolved after struggling along for seven years, and had been unsuccessful, the men said, because their employers had always managed to learn their plans. The leading spirit of the new organization was Uriah S. Stephens, a freemason, who had become convinced that in order to enfranchise labor it would be necessary to form a universal union of laborers. "And while the toiler is thus engaged in creating the world's

²⁷ *Direct Legislation by the Citizenship through the Initiative and Referendum*, 1893, p. 87.

value" (an erroneous statement borrowed from Karl Marx), "how fares his own interest and well-being? We answer, 'Badly,'" (a proposition that experience contradicts). "The hours of labor are too long and should be shortened. . . . There should be a greater participation in the profits of labor by the industrious and intelligent laborer" (an end that in certain cases can be attained).²⁸

In the organization of the Knights of Labor the Masonic order served as the model. Members were initiated with mysterious rites, including an oath upon the Bible, and even the name of the order was kept secret, the public knowing it for a long time as the "Five Stars." The order is composed of lodges, called "assemblies," which are designated by numbers. These assemblies are composed entirely of workmen, but there is no differentiation of trades; workmen of all kinds are admitted. There are two classes of assemblies: the local assemblies and the superior group known as State or district assemblies. The ultimate authority is vested in a General Master Workman assisted by a dozen other officers. At least one general assembly must be held every year.

At the outset the order was opposed by the reorganized association of garment-cutters, whose members called the Knights of Labor the "Teapot Society," because at their

²⁸ From the address of Mr. Stephens at the Assembly of 1871. For the origin and history of this society see chapter xv of *The Labor Movement*, written by Mr. McNeill who was then the secretary-treasurer of D. A. 30, Knights of Labor. Speaking of the meeting of December 23, 1869, when the seven founders took the oath of obligation, Mr. McNeill says, in the tone of an apostle: "And from this humble beginning in the house of a garment-cutter, within sound of the old 'Liberty Bell' that rang out the war against the monarchical system of government, and proclaimed liberty to the people, there went forth a new declaration of war against the monarchical system of labor, and the proclamation of a new era of liberty, of peace and plenty."

"Here, in this house, these seven men founded an organization in whose power now rests, perhaps, the destinies of the Republic," p. 399.

mysterious meetings on Thursday evenings the Knights drank nothing but tea. The plan of the order was to extend itself over the whole country by forming local assemblies everywhere; the lodge formed by the founders was known as Assembly No. 1. Into this a number of plumbers, paper-hangers, and painters had been admitted, but the first outside lodge, Assembly No. 2, was not formed until 1872. By the end of that year, however, twenty assemblies had been organized in Philadelphia. The crisis of 1873 was not favorable to labor-organizations, but by this time the Knights had acquired a certain prestige from their mysterious ceremonies. After several years of tentative organization a general administrative committee was appointed, and soon after provision was made for the formation of district assemblies, which were thought to be necessary to obtain the proper cooperation between the local assemblies. At least five local unions were necessary to form a district assembly. In 1878 the general assembly of the order was formed, and afterwards, provision was made for State assemblies to be composed of at least ten mixed local assemblies.

Thanks to its air of mystery which is so attractive to the multitude, and the dazzling prospects which were held out to laborers, the order succeeded in attracting an enormous number of members. In 1878 at the first general assembly held at Reading, a declaration of principles and a constitution were adopted and the secrecy which had so long enveloped the order was formally discarded. Influenced largely by this action, the founder and first Grand Master Workman, Uriah S. Stephens, resigned his position in 1879 and was succeeded by T. V. Powderly, a mechanical engineer.

In the declaration of principles which precedes the constitution the order declares that: "The alarming development and aggressiveness of great capitalists and corporations, unless checked, will inevitably lead to the pauperization and hopeless degradation of the toiling masses." One

of their aims, the declaration continued, was "to secure to the workers the full enjoyment of the wealth they create, sufficient leisure in which to develop their intellectual, moral, and social faculties, all of the benefits, recreation, and pleasures of association," and that this was to be accomplished "only by the united efforts of those who obey the divine injunction, 'In the sweat of thy face shalt thou eat bread.'" Nevertheless, by means of a special fund, and as a first step toward legal reforms, the order supported many strikes between 1878 and 1883. It demanded among other reforms, the referendum for all laws, the taxation at full value of all lands held for speculative purposes, legislation protecting the health and conditions of labor of factory hands, limitation of the hours of labor of children, payment of wages by the week and in lawful money, the emission of paper money in the quantities determined by the needs of the circulation, prohibition of the importation of contract-labor, and the establishment of a system of arbitration. This was indeed a platform: a patchwork of proposed laws, good, bad and indifferent.

The General Master Workman gave people to understand that these demands would be fulfilled if the workingmen were strong enough to impose their will by law and, he claimed, they would be strong enough so to do if they were all united and obedient to their leaders. The most perfect form of government, the order teaches, is that in which a wrong to one individual becomes the affair of all.

Having divested itself of many of the forms of secrecy, the order assumed under the direction of Mr. Powderly a more militant aspect; it published an official weekly—*The Journal of the Knights of Labor*—and succeeded in inducing the New York Assembly of 1892 to sanction the use of strikes, although that body had previously condemned the principle. The order grew apace. In 1886 it numbered 9000 assemblies, local, district and State, and the membership, it was claimed, reached 730,000. In one investigation the Grand Master estimated the membership at 500,000, but

report credited the order with many more, some estimates of the membership reaching 5,000,000.

The order originally had great faith in cooperation as a means of demolishing the wage-system and made great efforts to establish cooperative associations of consumers and producers, founding 72 such societies in 1886. It had also established, even built in some instances, cooperative stores for the sale of its products; charged the local assemblies to see to it that members dealt with them; and regulated the distribution of the profits: a third to the general treasury, a third to the establishments themselves, and a third to their employees.³⁰ At one of the meetings held at the Paris exposition of 1889, the representative of the Knights of Labor asserted that the number of cooperators exceeded 30,000 and that the monthly sales reached \$500,000. But even at this time the order had begun to wane; cooperation had failed to transform the lot of the laborer, and his faith was shaken.

The order tried to impose its conditions upon employers by placing its label or trade-mark, as a recommendation, upon goods manufactured in "union shops," and by boycotting those who resisted. Its orders were issued in the journal and the workmen were there exhorted to make themselves master by the ballot. But the leaders having insisted upon going into politics, this spirit of domination received a great set-back and became a source of discredit.

On the other hand the rapid extension of the order had introduced elements of insubordination, and many strikes were declared by local assemblies without the approval of the executive board by which missionaries were continually sent out to preach the gospel of obedience. General Master

³⁰ See *Congrès International des Sociétés Coopératives*, Sept., 1889. These proportions are not invariable. A cooperative shoe-factory started by the Knights in Duluth in 1885 (shares \$5, payable in five monthly installments) gave 40 per cent to the capital, 40 to the labor, 10 to salesmen who owned stock, 5 to salesmen who owned no stock, and 5 per cent to a school. See the report of M. Bruwaert in the *Recueil de Rapports sur les Conditions du Travail*.

Workman Powderly, who seems personally to have had little faith in strikes, tried to discourage them, counselled arbitration, and granted subsidies only to those strikes which had been officially authorized. On their side the local assemblies claimed that the general officers were too far from the scene and could not decide for every trade, whether or not a strike was expedient. Many members held that local assemblies composed of workmen in different trades were ineffectual, and the system of "mixed assemblies" became unpopular.

At the beginning the old secret order had recruited its membership without regard to trade distinctions, and the assemblies were really "mixed." But later, when it became evident that this type of organization was faulty, "trades assemblies" had been formed, which drew their members largely from non-unionists and thus came in direct competition with the existing trade-unions. This was a prime source of antagonism, and a stumbling-block in the path of the order. The trade-assemblies received their orders from a superior authority, and upon questions of wages, strikes, etc., these orders did not always harmonize with the decisions of the trades-unions who governed themselves and had no thought of relinquishing their autonomy. The order set itself the task of inducing the trades-unions, by persuasion or by violence, to fuse their individuality in the grand freemasonry of labor. A conflict was inevitable.

At the Richmond session of the general assembly held in 1886, the discussion of the relations to be established with the trades-unions was made the order of the day, and the executive board was disposed to conciliate the unions by certain concessions. "We recognize," said a circular letter recommended to the general assembly by a committee on legislation, "the service rendered to humanity and to the cause of labor by trade-union organizations; but believe that the time has come, or is fast approaching, when all who earn their bread by the sweat of their brow shall be enrolled under one general head, as we are controlled by

one common law—the law of our necessities; and we will gladly welcome to our ranks, or to protection under our banner, any organization requesting admission. And to such organizations as believe that their craftsmen are better protected under their present form of government, we pledge ourselves, as members of the great Army of Labor, to cooperate with them in every honorable effort to achieve the success which we are unitedly organized to obtain.” But the general assembly was less conciliatory;²¹ after a stormy and violent debate it voted down the motion and virtually declared war against independent unions, which the Knights accused of selfishness and impotence, because the strike, their principal weapon, could lead to nothing but misery. The only thing to do, the General Master declared, was to go into politics, and this he thought could be done with success. But their political ventures have not been successful: certain declarations of Cardinal Gibbons and other American prelates caused the General Master to be suspected, quite inconsequently, of having joined forces with the Catholic clergy, and although this was a matter of secondary importance in the minds of the workingmen, the influence of the General Master was weakened.

The domineering conduct of the Knights has brought on quarrels with a great number of unions.²² For example, the glass-cutters’ union was about to amalgamate with the order in 1886, but suddenly changed its purpose when it found that the Knights were taking into their organization glass-cutters who had not paid their dues in the union.²³

²¹ The history of the Knights of Labor though recent, is full of obscurities, because each historian, presenting it from his peculiar point of view, has left *lacunae* which at times are intentional. Cf. *The Labor Movement*, ch. xv.

²² In 1886 the assembly at Troy, N. Y. struck to obtain the discharge of certain carpenters who belonged to the Brotherhood of Carpenters and Joiners.

²³ *Rapports de la délégation ouvrière*, p. 705. The Federation of Labor has made similar charges more than once. Thus, an address published by the Federation in 1889 containing the following stric-

The furniture-workers charge the Knights with having sent men to take their places at Pullman,⁸⁴ and the same charge was made in 1892 by the coopers' union of New Orleans.⁸⁵ The shoemakers also attribute the failure of one of their strikes to the hostile intervention of the Knights of Labor.⁸⁶ The quarrels between the garment-cutters and the makers of ready-made clothing, the first of which belong to the order and the other to a union, date from the very beginning of the Knights of Labor and still continue. In consequence of these conflicts and the failure of the glowing promises made by the leaders, the membership of the order, which was so large in 1886, fell in 1894 to 65,000 according to one authority, or 150,000 according to another. The order now has 200,000 members, if we may accept the statement furnished for publication in several almanacs. As a result of the dissensions which have divided the members, a new society was formed at Columbus in 1895 under the name of "The Independent Knights of Labor." This society also has a "General Master Workman."

In July, 1893, when Mr. Powderly made known his intention to resign the leadership, the budget showed a deficit and it had become necessary to draw upon the reserve. Mr. Powderly gave way to Mr. Sovereign and the socialistic element applauded the change. What will be the future of the order under its new management? Secret societies which promise to put an end to iniquity and bring about happiness in the near future, have always exercised a powerful fascination on the masses.

The American Federation of Labor.—This organization has fallen heir to a large part of the membership of the Knights of Labor. In addition to the latter organization several federations of labor were organized between 1866 and 1872,

ture: "Too often the national trade has been made the dumping ground for men who have been branded as unfair by the trade unions."

⁸⁴ *Ibid.*, p. 714.

⁸⁵ *Ibid.*, p. 728.

⁸⁶ *Official Book of the Am. Fed. of Labor*, Dec., 1892.

among them being the National Labor Union, which disappeared during the crisis of 1873, and the Federation of Organized Trades and Labor Unions of the United States and Canada. This federation originated in a grand congress held in 1881 at Pittsburg, one of the first acts of which was to protest against the despotism of the Knights of Labor. In a manifesto published in 1882 the federation declared for the autonomy of each trade-union, and asserted that it would confine itself to the laborer in his capacity of workman, without demanding of him a profession of religious or political faith. An unsuccessful effort was made to come to an understanding with the Knights of Labor and in the contest which followed, the Federation succumbed. The formal dissolution took place at a convention held at Columbus in 1886. But it was succeeded by the Federation of Labor which was organized at the same meeting.⁸⁷

To encourage the formation of local unions and the combination of these into State and municipal groups with the object of securing favorable legislation; to establish and stimulate the development of national and international unions based upon a recognition of the autonomy of each trade; to maintain newspapers devoted to the interests of American labor: such was the programme of the new federation; its motto, *Labor omnia vincit*. The plan has been to unite the unions into a harmonious whole without attempting to dominate them or to violate their individual traditions and creeds.⁸⁸ In accordance with this plan the leaders have endeavored to bring under their direction all the labor-unions of America, to found unions in unorganized trades, and to influence legislation and public opinion by the press and by public meetings. In particular, they

⁸⁷ For the history of the Federation of Labor, see the *Official Book of the Amer. Fed. of Labor*; the *Report of the Proceedings of the Annual Convention*; *Trade Unions, their Origin and Objects, Influence and Efficacy*, and other pamphlets published by the Federation.

⁸⁸ *Trade Unions, their Origin and Objects, Influence and Efficacy*, by W. Trant, p. 41.

have undertaken the mission of advancing civilization "by procuring for laborers a reduction in the hours of labor." Under the caption "Unionists Federate," the *American Federationist* of October, 1894, says: "On every hand we see the capitalist class, the corporate and moneyed interests concentrating their efforts for the purpose of despoiling our people of their rights, encroaching upon our liberties and endeavoring to force the workers down in the social, economic and political scale. . . . In view of these circumstances it must impress itself upon your minds, as it has upon ours, that the toiling masses, the wealth producers of the country, should unite for their common advancement."

The entrance fee for a union is \$5, to which is added \$5 for supplies. The dues of an independent "local" are one cent a month for each member; of national and international unions, one-quarter of a cent a month for each member; and of councils in the cities, \$25 a year. Seven members, male or female, are sufficient to form a union, and it is not necessary that they should be all of the same occupation. During strikes and lockouts the union affected is entitled to receive a subsidy, after its own funds have been exhausted, which is secured by levying a tax of two cents or more a week upon each member of the federation. This subsidy is continued for five weeks and may be prolonged by special vote.

The officers of the federation, who together form the executive council, consist of a president, three vice-presidents, a secretary and a treasurer: they are elected for one year by the convention. These conventions, or "general assemblies," are held each year on the second Monday of December at a place selected by the preceding assembly. The assemblies are made up of delegates sent by the affiliated unions: from each union not embraced in a national organization one delegate; from national and international unions, one delegate for each 4000 members, although every such union is entitled to at least one delegate. From the members of the convention the president selects ten committees which consider the questions and resolutions pre-

sent by the delegates, and report their conclusions to the general assembly.

Under the direction of Mr. Samuel Gompers, success has been rapid. The official book of the federation published at the twelfth general assembly, December, 1892, reports 79 affiliated national or international unions, comprehending 7031 local unions and 652,300 members: in addition there were 1500 local unions not embraced in any national or international organization.⁸⁰ In the succeeding assembly held at Chicago in 1893 more than 800,000 workmen were represented. The federation has held thousands of meetings in favor of the eight-hour day, scattered hundreds of thousands of pamphlets, worked for the repeal of laws condemning combinations of workmen, and led the affiliated trades one after another into open revolt. In 1890, 46,000 carpenters representing organizations in 137 cities, entered into a campaign under its leadership for a reduction of the hours of labor. And they won their fight.

The federation professes neutrality in political matters and pretends to confine its operations to the field of labor interests. In accordance with this policy admission was refused to the central federation of labor of New York because the latter included a socialistic section.

Efforts have been made by the federation to effect an understanding with the Knights of Labor. But the standpoints of the organizations are too antagonistic. In 1882 the federation distributed a circular announcing that the non-secret trades-unions would be able to march side by side with the Knights of Labor, if the latter did not contain over-ambitious men who destroyed existing unions in order

⁸⁰ "Tribune Almanac," 1895, p. 226. About the same membership was claimed in 1896, i. e., 7000 unions and more than 650,000 members. [According to President Gompers' report for 1898 there were in direct affiliation with the Federation of Labor for that year 67 national and international unions with 10,500 local unions attached; 10 State federations; 82 city central labor-unions and trades-assemblies; 315 local unions which belonged to no national organization; and 109 federal labor-unions.]

to serve their own personal ends. This was not calculated to conciliate the Knights, and as we have seen, the latter repulsed the advances made by the federation in 1886.

In the latter year some of the unions complained that the Knights of Labor had recruited assemblies in trades which were already organized, and that these assemblies had imitated their labels. The Knights responded by expelling the cigar-makers' union, which had affiliated with the federation. But as we have seen, they were unable to give the workingman all they had led him to expect, and in the contest which ensued, the federation came out ahead.

At the Philadelphia convention of 1889 the federation affirmed the absolute right of trades-unions to occupy the legitimate field of "trade-unionism," declared that the Knights of Labor ought to revoke the charters of the "trades-assemblies," and promised, if this condition were complied with, to invite the members of these unions to affiliate themselves with the mixed assemblies of the Knights. The latter refused to assent, and the war was continued. The federation then accused the Knights of attempting to subvert the movement of trade-unionism, denounced their policy as a mask and their leaders as unscrupulous men who sought to use the workingmen as instruments of their personal ambitions.⁴⁰ In return the federation was violently attacked by the socialistic press: it was a tool of the employers, the socialistic papers said, whose purpose was to hoodwink the workingman by a sham attack on the tyranny of capital.

"One of the greatest results of unionism," a publication of the federation states, "has been, and still is, the elevation of wages or, what amounts to the same thing, the reduction of the amount of work done for a given wage. This is the principal object of the federation. Workingmen who have once experienced the pleasures of prosperity

⁴⁰ See the publication of the federation entitled: *Relation of the Trade Unions to the Knights of Labor*.

will not willingly return to their former poverty.”⁴¹ This feeling is very natural, but after having promised to improve the condition of workingmen in this respect, the federation now finds the path obstructed by economic difficulties which their publications wrongly persist in describing as trifling. For some years these difficulties have been growing in all lines of production, and the consequent lack of success has engendered doubts and turned the energy of those who are still hopeful, into other directions. In the election of 1893 President Gompers had a majority of only two votes; in the following year he was defeated, and it was not until December 14, 1895, that he was again made president.

Statistical summary.—Col. Wright estimates the number of unionists in the United States at a little less than 1,500,000: 800,000 members of the three great federations—the Knights of Labor, the Federation of Labor, and the American Railway Union—plus 600,000 representing the members of unions not affiliated with the organizations named. This is about 30 per cent of the total number of workmen enumerated in the census of 1890, although the census figures include the workmen of small towns and villages. As the labor-organizations are recruited almost exclusively in the cities, and from skilled labor, it seems that the organizations possess a majority of the workingmen of the United States. It is probable, however, that in the United States as in France the number of members who take an active part and pay their dues regularly is perceptibly smaller than the number claimed by the organizations which like to appear important in order to become important.⁴²

⁴¹ See *Délégation des Syndicats Ouvriers de la Ville de Paris à l'Exposition de Chicago*, p. 119.

⁴² In 1894 an investigation showed 58 unions in New Hampshire, with a total membership of 3294 (2980 men, 314 women). This was but a small minority of the 71,408 persons engaged in gainful occupations who were recorded in the census of 1890, and the proportional amount was much below the average for the whole United States. In the State of New York, in which the returns are made

The budget.—After this historical sketch it seems proper to give a few statistics in order to show how the labor-organizations manage their business.

Almost all local unions have a double object: resistance to employers and assistance to their own members. I shall return to the subject of mutual aid in another chapter;⁴⁸ in this chapter we shall confine our attention to the former question. A few examples will suffice.

Typographical Union No. 42 of Minneapolis gives a sick-benefit of \$6 per week for thirteen weeks and a death-benefit to the families of deceased members; subsidies are often granted to other unions when they are on strike. The cost of administration represents about 25 per cent of the aggregate expenses. Members pay dues both to the local union and the international union.

Painters and decorators contribute 35 cents a month, of which 5 cents goes to the strike-fund, 20 cents to the payment of sick-benefits and other local expenses, and 10 cents to the brotherhood which pays benefits upon death or permanent disability.

Many of the national and international unions also have this double object. Their receipts come from the local unions or from the members direct. In 1892 the International Typographical Union published its ordinary budget. It was divided as follows: 20 per cent for administrative ex-

by the unions themselves, the Commissioner of Labor was very much pleased in 1895 with the growth that had taken place: 860 organizations with 157,197 members in 1894, 927 organizations and 180,231 members in 1895. He added that this number would probably reach 225,000 by January, 1896. Although New York is one of the States in which labor-organizations have met with the greatest success, the total membership had not reached a third of the employees, 850,000, in 1890. [In the first quarter of 1897 there were 927 labor-unions in New York, with an aggregate membership of 142,570; in the last quarter of 1898, 1087 organizations with 171,067 members, of which 7505 were women. The Commissioner of Labor estimates that about ten per cent of the persons engaged in gainful occupations, were members of unions.]

⁴⁸ See *L'Ouvrier Américain*, chap. v, part ii.

penses including the publication of the *Typographical Journal*, 30 per cent for the resistance fund, 30 per cent for death-benefits, 20 per cent for the home for aged printers.⁴⁴ The American-German typographical union (1366 members) expended in 1891-1892: \$9358 in "work-benefits," \$4819 for strikes, \$997 for "travelling benefits," \$3564 for administration and propaganda, \$2251 for death-benefits.⁴⁵

The International Union of Bricklayers and Masons, with a membership of about 35,000, does not concern itself with insurance of any kind, but confines its attention to the subject of resistance. In the eleven years 1882-1893 it expended about \$500,000 in strikes which had been authorized or approved by the general organization. Strikers receive from \$5 to \$7 a week, the necessary funds being secured at each strike by special levies upon the individual members. The union never authorizes more than three strikes at once.

The International Brotherhood of Brass-Workers uses 40 per cent of its receipts for administrative expenses, a rather large proportion. The other 60 per cent is divided equally between the funds for strikes, propaganda, and sick-benefits. The money necessary to maintain their journal and pay funeral and death-benefits (\$100), is obtained by special assessments.

In the Brotherhood of Iron Ship-Builders the members pay 50 cents a month to their local lodges; the local lodges pay an initiation fee of \$15 on entering the Brotherhood and 50 cents per quarter for each member.

The Brotherhood of Locomotive Firemen, which had 26,000 members in 1892, is composed of a great number of lodges. The minimum dues are \$5 a year to the local lodge and \$2 to the brotherhood. The lodge pays the sick-benefits and maintains an employment bureau; by a two-thirds

⁴⁴ The distribution of receipts at present, is as follows: one-sixth to the fund for general expenses; one-fourth to the defense fund; one-fourth to the burial fund; one-third to the Childs-Drexel Home. *Testimony of President Donnelly before cited.* [Tr.]

⁴⁵ See *Official Book of the Federation of Labor*, December, 1892.

vote it can impose special assessments. Counting these supplementary contributions the brotherhood costs each member not less than \$16 annually, although the official journal alone requires about \$25,000 a year and there are more than \$70,000 in the strike-fund. All the railway organizations are on amicable terms with the Federation of Labor, though they are not affiliated with it.

In twelve and one-half years (1878-1891) the Cigar-Makers' International Union expended \$1,426,028: \$469,158 for strikes, \$439,010 for sick-benefits, \$109,608 for death-benefits, \$372,455 for traveling benefits, and \$35,795 out-of-work benefits.⁴⁶

The Federation of Labor has a regular income which is made up of the dues of the affiliated unions. As noted above, each union, on admission, pays \$10 for a charter and other necessary supplies—seal, registers, etc.—and in addition the federation undertakes to furnish office furniture, pamphlets, etc., at specified prices. The direct dues are one cent a month from each member of an independent union, and one-quarter of a cent per month from each member of a national union.

In general the dues are high, although they vary according to the trade. The American workman considers the labor-union a necessary item of expense, and does not hesitate to give it a relatively high place in his family budget. As we have just seen, the dues of locomotive firemen amount to about \$16 a year, and the conductors probably contribute \$30 a year as a result of the high benefits their organization pays.

But the union has its advantages and American workmen

⁴⁶ According to the testimony of the president of this organization, G. W. Perkins, before the Industrial Commission, the union expended in 1899: \$25,118 for strike benefits, \$111,283 for sick benefits, \$94,939 for death benefits, \$70,197 for "out-of-work" benefits, \$70,085 for salaries, \$27,379 for labor agitation, and \$25,237 in rendering assistance to traveling workmen. Since 1879 the union has paid out \$4,045,464 in benefits of various kinds. *Industrial Commission*: "Labor and Capital," p. 170. [Tr.]

rate them highly. The first of these is the regulation of the labor-contract; the second is the insurance feature; the third, the means of resistance it provides. In several trades the unions and the employers have drawn up tariffs of piece-rates; in other trades in which the piece-rate system has been rejected by the workman as one cause of the depression of wages, the contract is made for so much per hour during a fixed number of hours. Strikes constitute the favorite weapon of resistance, and all the unions, local and national, spend a large part of their receipts in supporting them. They even support strikes declared by other unions, sometimes by subsidies, sometimes by going on a sympathetic strike. Insurance against non-employment caused by lock-out or business depression, is also frequently undertaken by the unions.⁴⁷ A number publish journals in addition to the regular reports of the officers.

The national unions provoke strikes, support them, and even aggravate their severity by making them more general, but they frequently act as checks and restrain the local unions when the demands of the latter appear unreasonable. The national unions naturally have more information than the local unions and their officers are abler. If there were fewer labor organizations there would be fewer strikes, but if the existing organizations were less efficient there would probably be more strikes. The unions demand arbitration, and in some cases it has been provided for in contracts with employers. Arbitration for the workman is as politic as it is wise, because in the long run it promises more for the workman than the uncontrolled decision of the employer does.

The unions keep their hold upon the workingmen by liberally advertising the victories which they claim to have won, by strikes or amicable agreement, in disputes concern-

⁴⁷ In 1894, during the recent depression, Typographical Union No. 6 of New York paid \$30,858 to members out of work; Cigar-Makers' Union No. 90, \$9405; the carpenters, \$6059, etc. See *Summary of the Twelfth Report . . . New York*, p. 111.

ing changes in the rate of wages, reductions in the hours of labor, etc. Out of 661 unions who were asked by the New York labor bureau whether the organization had improved the condition of their members, 621 responded "yes."⁸⁸

The cost of administration, at least in those organizations from which I have been able to obtain data, is relatively high, reaching 20, 30, and even 40 per cent of the total expenditures. The laws of the American Federation are not explicit, except in regard to the emoluments of the treasurer.⁸⁹ This official was formerly allowed the modest stipend of \$100 a year and was required to give bond in the sum of \$5000;⁹⁰ in 1893 the salary was raised to \$300. The president now receives \$1800 and the secretary \$1200.⁹¹ The statement of receipts and expenditures for the year 1890 shows an expenditure of \$3569 for salaries and clerk-hire, one of \$1216 for organization and traveling expenses, and an aggregate of about \$4000 for rent, printing, office expenses, etc. Out of a total expenditure of \$21,073, \$12,060 were charged to strikes: the latter is almost the only item not embraced in the expenses of management.⁹²

⁸⁸ In New York in 1894, 554 organizations declared that they had prevented reductions, 33 declared that no reduction had been attempted in their trade, and 96 answered that they had been unable to prevent reduction. In response to another inquiry 401 organizations answered that since their foundation wages had been increased, 62 that wages had fallen, 74 that there had been no change.

⁸⁹ Mr. Powers in one of the reports of the bureau of statistics of Minnesota attempts to show that the expenses of management of unions are not excessive because they are proportionately less than the cost of running a railroad company or an industrial establishment. But there is no comparison between these enterprises: the union manufactures no product, has no raw material to provide, no expensive personnel to maintain.

⁹⁰ See *Report*, 1890.

⁹¹ *Rapport de la délégation ouvrière*, p. 603. [The secretary now receives \$1500 a year, and the treasurer \$100.]

⁹² *Report of the Proceedings of the American Federation of Labor*, 1890, p. 17.

[The total expenses in 1898 were \$19,197.17. The *American Federationist* cost \$2541.75 (the receipts from the same source being \$2287.83), and a little over \$1500 were spent in supporting strikes

The International Typographical Union pays its president \$1400 a year and \$3 a day when traveling for the union. The vice-presidents receive \$1000 and \$300 respectively, and the secretary \$1700. The Order of Railway Conductors pays its president \$5000, its vice-president and one other officer \$2000, its secretary \$3000, although a \$25,000 bond is required in each case and it is probable that there are few organizations in which the officers are so highly remunerated. In this order the expense of management is about 20 per cent of the total expenditure and the dues per member are about \$30 a year.⁸⁸

As a rule these salaries do not exceed the wages of a first-class workman and the officers, who are fully occupied with their official duties, find no time to work at their trades. Moreover, certain extraordinary expenses are often involved in maintaining the dignity of the office. As we shall see in the second part of this work, American workmen do not like to stint themselves, and their leaders, who are fond of asserting that the wealth of the people increases with their power of consumption, are not exceptions to the rule. If you wish to be well served, they say, you must pick out the best men and pay them well. It is certain that some of the presidents of these organizations are men of distinction.

Whether extravagance does not creep in, and whether the management is efficient enough to keep the unions in position to meet all their financial obligations, are questions which I am not able to answer. I have seen only a few financial statements of labor organizations. No such statement was contained in the reports of the unions to the Federation of Labor in 1892, which were printed in the official book of the session. The instability revealed by the formation and dissolution of local unions, indicates that the

and assisting similar movements. All the expenses, with the exception of the two just mentioned, may properly be classified as expenses of management. This is not at all remarkable, however, when the scope and character of the federation aims are taken into account.]

⁸⁸ *Rapports de la délégation ouvrière*, p. 629.

unions often have little solidity. On the other hand, most of the great national unions are not old enough to permit a judgment to be made concerning their value from the standpoint of financial stability, particularly when their pension provisions are taken into account.

In France, a few years ago, complaint was made by the central administration of the laxity exhibited in the distribution of medicines and the payment of sick-benefits. What is the situation in the United States where there is no control of unions? Should not the federal law which confers corporate rights upon national unions, compel them, as a condition of incorporation, to publish annually their own accounts and those of the affiliated unions? Incorporation, however, is not desired by all unions; some prefer to remain under the common law, in order to preserve the freedom and even the secrecy of their operations. Some American publicists, while favorable to the principle of unionism, complain that many labor-organizations do not offer guarantees solid enough to justify employers in treating with them.⁵⁴

The proscription of non-unionists.—The unions have given a fatal stimulus to the movement towards monopoly. They pretend to control their respective trades, or at least they refuse to accept the rules of the employers, and they are inclined to regard as their enemy everyone, employer or workman, who does not belong to a union. When there are two organizations in the same trade, war frequently arises between them, as we pointed out in describing the Knights of Labor; one might begin at once to write the history of these rivalries as has been done in the case of the mediæval trade guilds.⁵⁵ Unionists firmly believe that organization is their only available weapon against the power of the employing class, and that to gain all that it is pos-

⁵⁴ See the article of Mr. Cummings in the *Quarterly Journal of Economics*, July, 1895.

⁵⁵ See my *Histoire des Classes Ouvrières en France avant 1789*.

sible to gain, they will have to fight. The consequence is that they consider every non-unionist a traitor, outlaw him, and try to intimidate him. Instances are not wanting in which the unions have employed violence. I note a few examples.

A New York printing house which employed German printers, came to the conclusion that their trade required American printers and applied to Typographical Union No. 6 for workmen. But the German union claimed the sole right, as in the past, of supplying the printers, German or American, and went on a strike. Their contention was totally unjust.⁶⁶

In 1890, 120 workmen quit a building contractor because he refused to discharge his non-union workmen, and maintained a strike for five weeks. The official board of arbitration of the State of New York succeeded in restoring harmony by persuading the employers to agree to employ none but union men, while the non-unionists were admitted to the union on the payment of one-half the usual entrance fee.

In September, 1893, while I was in Chicago, eight non-union painters were at work for a contractor on Wells Street. The union workmen were at that time on a strike against a reduction of wages, work being slack on account of the crisis and the reaction following the completion of the exposition buildings. The strikers attacked the eight painters with clubs and bricks, despite the intervention of the police. One of the non-unionists by the name of Schultze was pursued by the strikers for more than a mile and was at length caught, cruelly beaten and wounded in the head by a brick. Schultze fired a revolver at his assailants and a policeman, who had arrived upon the scene without knowing the cause of the disturbance, fired at Schultze and wounded a woman who was passing. By this time the crowd had taken up the cry "kill the scabs," and the police did not get it under control until after the arrival of a

⁶⁶ *De la Conciliation*, publication of the *Office du Travail*, p. 344.

wagon-load of officers. Some of the non-unionists and strikers were arrested, but escaped almost immediately in the tumult. Schultze, who had again started away, was pursued by the strikers and attacked with bricks which they secured from a pile in front of a house that was building; all this time the strikers were yelling: "arrest the murderer." Weakened by his wounds Schultze leaned against a wall and returned the attack with his revolver. A police officer came up as Schultze fired, and in turn opened fire on the painter, who surrendered when he recognized the uniform of the officer. The strikers still persisted in their attempts to take him from the police, and in order not to lose their prisoner the police hurried him into a post-office, maltreating him, it seems, as badly as the strikers had.⁶⁷

Agreements with employers.—Such conflicts are unfortunate incidents, not the ends, of American trade-unionism. The object sought is to be able to treat with the employer on terms of equality. And it is certain that in some industries, the building industry in particular, the unions have partly succeeded, and at times impose their own conditions. I was told by certain French residents of Philadelphia that in the glass manufacture the workmen, rather than the employers, were the masters.

The stone-cutters are for the most part, it is said, affiliated with the Paving Cutters' Union of America and Canada. This organization has a great number of branches which have made agreements with the employers in different cities. I have before me twenty-three contracts of this kind. In them are specified the dimensions of the paving stones, the manner in which they should be laid, the price of the work, etc. In Colorado, in 1891, it was stipulated that wages should be paid by the month, that workmen should give at least ten days' notice before quitting, that the contract should be binding for one year, etc.

From Chicago I brought away some fifteen contracts of

⁶⁷ See the account in the *Sunday Herald* of Chicago, Sept. 3, 1893.

this kind. That concluded in 1893 between the carpenters' union and the association of carpenters and builders contains the following provisions: The joint committee of arbitration shall continue to hear complaints from employers and employees, and adjust differences; pending the judgments of this committee, work shall not be interrupted except by the express order of the president of one of the associations; the workmen may quit work to go on a sympathetic strike without violating the agreement; the working day shall consist of eight hours, commencing at eight o'clock in the morning and ending at five in the afternoon; wages shall be 40 cents an hour from April 3, 1893, to April 3, 1895; the men shall not be required to work overtime except in cases of necessity, in which event they shall be paid fifty per cent extra; wages shall be paid every fifteen days; piece-work shall be prohibited; union workmen only shall be employed; after having signed this agreement, workmen shall work for members of the employers' association only.

I subjoin the complete text of one of the shortest of these agreements, that of the lathers:

ARTICLES OF AGREEMENT.

CHICAGO,.....1893

.....party of the first part, and the CHICAGO JOURNEYMEN LATHERS' INDEPENDENT UNION, party of the second part, hereby agree to the following articles:

ARTICLE I.

That eight hours shall constitute a day's work.

ARTICLE II.

That the wages shall be four dollars (\$4.00) per day for first-class, and three dollars and fifty cents (\$3.50) per day for second-class men until December the first, eighteen hundred and ninety-three; and that on and after December the first, eighteen hundred and ninety-three the wages shall be

three dollars (\$3.00) per day for first class, and two dollars and fifty cents (\$2.50) per day for second-class men.

ARTICLE III.

That all employees shall be paid in full each week; but when an employee is discharged he shall be paid immediately.

ARTICLE IV.

That all overtime shall be paid at the rate of one and one-half time, except Sunday, which shall be paid at the rate of double time.

ARTICLE V.

That the employer holds the right to employ such lathers as in his judgment are best fitted for his work; also the right to discharge such men at his option, without any interference from the Lathers' Union.

ARTICLE VI.

That there shall be allowed on each job a steward, who shall represent the union.

ARTICLE VII.

That one apprentice shall be allowed to every six journeymen.

ARTICLE VIII.

That it shall be the duty of the employer to ascertain the class of his employee's card within one day after their employment, and on his failure to comply with this rule he shall be responsible for the class of wages demanded.

ARTICLE IX.

That no employee holding a first-class card shall be allowed to work for second-class wages, nor shall any employee holding a second-class card be upheld in demanding first-class wages.

ARTICLE X.

That any and all disputes arising as to the construction of this agreement, or any part of it, shall be settled by arbitration.

ARTICLE XI.

That the Lathers' Union shall at all times carry on an active and ceaseless warfare on all contracting lathers who refuse to sign this agreement.

ARTICLE XII.

That no strike shall be declared openly or secretly on any contracting lather signing this agreement until the cause of the complaint, if any exist, is brought before the arbitration committee and the contractor.

ARTICLE XIII.

That a sympathetic strike on any building shall not be considered any violation of this agreement.

ARTICLE XIV.

That this agreement shall go into effect upon the first day of April, eighteen hundred and ninety-three, and hold good until March the fifteenth, eighteen hundred and ninety-four; and any changes to be offered to be on or before March the first, eighteen hundred and ninety-four.

Signature,

For Chicago Journeymen Lathers' Independent Union:

.....

It should be said that it is almost exclusively in the building trades that the workmen have been able to enforce such conditions, and that the contracts which I have just cited were signed at a time when the task of erecting the buildings of the World's Fair made the contractors helpless. As one of them said to me, it was necessary to submit, or the work, which was urgent, could not have been completed. They were not even allowed to employ non-union men when the unions could not supply enough labor, the unions claiming that all the unaffiliated workmen had to do was to pay the initiation fee of \$10. The crisis of 1893-1894 naturally relieved the pressure upon the contractors.

In the coal mines, on the other hand, it is usually the

employer who determines the provisions of the wage-contract. Mr. Schilling, secretary of the bureau of labor of Illinois, has published one of these contracts which had been signed by the miners. During the term stipulated in the contract the employee promised not to leave the employment, not to participate in any strike or combination of workmen, and not to conspire with other workmen to obtain a higher rate of wages than that agreed upon; in case he violated the contract, the workman expressly agreed to forfeit all wages due to him at the time of violation, and in event of his discharge at the end of the term, to move from the dwelling he had occupied without demanding the customary written notification. It was further provided that if he did not move, he should be deemed guilty of having retained the dwelling by force, and should be entitled to no back wages until he had removed his possessions and turned over the keys. The workmen might appoint a weigher at their own expense, to verify the work of the company's weigher, but their appointee had to be a workman in good standing, selected from the miners employed by the company.⁸⁸

Employers' associations.—It is very plain that in each case the stronger party rudely imposes his pleasure upon the weaker. And each party strives to be the stronger. In the mines and the great manufacturing works which are formed into corporations with a capital stock divided into shares, the employers are usually strong enough to resist the unions. Some will not employ union workmen; others do not discriminate against union men but refuse to treat with their organizations; others again treat with the unions without yielding to them.

It is much easier for a few great manufacturers to come to a secret understanding, than for a large body of workmen to form a temporary coalition. And the manufacturers did not postpone combination until the develop-

⁸⁸ *Statistics of Coal in Illinois.*—*Bureau of Labor Statistics*, p. 105.

ment of the trade-union. "We have long since learned that it was the capitalistic organization of modern industry which was the aggressor, not the labor organizations which took the first step in combination."⁸⁰

Paradoxical as it seems, the statement can be sustained. For generations, individual employers imposed their own conditions and took advantage of their superior position to dictate the terms of employment. It was to resist this that the workmen formed unions; in order to present a united front to organized labor, and also to put an end to certain abuses for which the workmen were responsible, the employers in turn formed their associations.

For example, the enormous growth in the output of the anthracite mines between 1860 and 1870, increased wages and attracted laborers of all sorts by the thousands. In this promiscuous horde, lawlessness was common; not only strikes, but brutality and crimes of every description were frequent. As a measure of defense the employers formed in 1867 the Association of Mahanoy Valley and Locust Mountain, which was followed by similar associations. These associations finally appointed a joint committee of the anthracite mines of the Schuylkill, which played an active and useful part during this trying period.⁸¹

Toward the latter part of the year 1892 the iron-heaters of Kewanee, Illinois, formed a branch of the Brotherhood of Iron-Heaters. The employers retaliated by declaring a general lockout and closed their works. Three months later the workmen, who had not been properly sustained, abandoned the brotherhood and went back to work.⁸²

In America as in Europe the workmen in the hat-manufacture are strongly organized. In America the employers have also formed a national association of hat-manufactur-

⁸⁰ Edward Cummings in the *Quarterly Journal of Economics*, vol. ix, p. 364.

⁸¹ See *De la conciliation et de l'arbitrage*, a publication of the *Office du Travail*, p. 220.

⁸² *Rapports de la dél. ouvrière*, p. 672.

ers. Committees of arbitration composed of representatives from the two classes have been constituted, with power to adjust differences and, in case of disagreement, to call in a third arbiter from some other occupation. Above these committees is a permanent mixed commission which superintends the execution of contracts made between the two parties.⁶² Nevertheless the workmen have a great deal of power in the hat manufacture.

At bottom, associations of employers to raise prices or resist advances in the rate of wages, are not different from associations of workmen to raise wages. But the American courts are in general more severe upon the former than the latter.

The "trusts," which I mentioned in the preceding chapter and which are in some instances a legitimate outcome of industrial freedom, have been developed for the most part by the necessity of securing united action against strikes and strikers, although the protective system has also stimulated their formation and abuse. The president of the American Federation of Labor attacked them in the convention of 1890. In the last few years, he said, the movement towards combinations has proceeded with a speed unknown before. We often hear of associations formed with the express purpose of opposing the working classes, but efforts have been made to extend this movement beyond our country and give it an international character. They had nothing to fear, the president assured them, if they were strongly organized in their own country, although they ought to unite their power with that of foreign labor-organizations.

In his testimony before the Senate Committee on Education and Labor, Mr. Hewitt, the well-known manufacturer explained how labor-unions and employers' associations had been developed by mutual antagonism. Up to this point, he said, the struggle had been marked by innu-

⁶² See *L'Ouvrier Américain*, part iii, chapter vi.

merable disasters. "But one good result has been achieved. Labor is thoroughly organized and marshaled on the one side, while capital is combined on the other. . . . The great result achieved is that capital is ready to discuss. It is not to be disguised that until labor presented itself in such an attitude as to compel a hearing capital was not willing to listen, but now it does listen. The results already attained are full of encouragement: the way to a condition of permanent peace appears to have been opened."⁸³

In a later address delivered while he was president of a society of engineers, Mr. Hewitt repeated these ideas and declared that the doctrine of freedom implied the right of individuals to dispose of their property or their labor and to combine to dispose of them.⁸⁴ He also held that the organization of workingmen should be encouraged so long as they confined themselves to the protection of their own interests. We have no more reason to fear combination than competition, he asserted; both are necessary forces. But he added that the Americans lived in a country in which the toleration of certain abuses would engender conflict and intensify the differences between capital and labor.

Comparison between America, England and France.—The progress and practical importance of labor-organizations in America are evident. As in several countries of Europe they have assumed the triple function of educating the laborer, assisting his family by mutual insurance, and protecting his interests against the employers. The first two functions

⁸³ *Labor and Capital*, i, 457.

⁸⁴ Mr. Hewitt, in his inaugural address (page 15) formulates the following propositions: (1) That the employers and the employees have an equal right to form associations with a view of increasing or reducing wages; (2) That neither party has a right to force the other party to submit to its conditions, except through the interposition of tribunals legally constituted; (3) That strikes and lock-outs are unjustifiable from the standpoint of justice and cannot be tolerated except in the absence of some means of submitting the difference to legal decision; (4) That no person has the right to force another person to associate with him in any organization whatsoever.

they perform with some measure of success, but it must be acknowledged that the education they give is in many respects false. The doctrinaries of their party possess, with a smattering of economic science, a fund of theories about the production and distribution of wealth which are almost always derived from Karl Marx or Henry George and, being utopian, cannot help deluding their devotees. And yet in the older organizations, as is the case in England, there is a large majority of practical, and even conservative, men. It is a rare thing in these associations to find a revolutionist preaching the violent destruction of society in order to remold it according to his dreams, and in this respect American unions are distinguishable from the socialistic schools which dominate the labor party on the continent of Europe and which through the channel of immigration are making headway in America itself.

The trade-unions of England are older than those of America: many were formed during the latter part of the eighteenth century and the first law legalizing their existence dates from 1871. The English unions have the advantages of a riper experience and many are more strongly constituted, yet notwithstanding these facts, the strongest English union, that of the carpenters, contained only 90,000 members in 1893, and the Amalgamated Society of Engineers 73,500, while in the United States the Brotherhood of Carpenters and Joiners numbered 60,000 members, the Amalgamated Association of Iron and Steel Workers 45,000, the Iron Molders' Union 35,000, the International Union of Bricklayers and Masons 33,500, the Brotherhood of Locomotive Engineers 30,000. The Knights of Labor boasted, at one time, of being 730,000 strong⁸⁸ and, in 1893, the American Federation of Labor claimed 800,000 members. The statistics of the department of labor showed in the year 1892 nineteen English unions with a membership

⁸⁸ Carroll D. Wright estimates their maximum membership at 1,000,000. [Tr.]

of more than 10,000; in the same year the register of the Federation of Labor contained precisely the same number of national unions having more than 10,000 members.

In England 594 unions reported 1,237,000 members, more than 2000 for each union, and an aggregate expenditure of 1,763,000 pounds sterling, this enumeration being incomplete. In 1894 a competent witness before the Royal Commission on Labour estimated the total membership of the English unions at 2,000,000, which is equivalent to nearly one-half of all the laborers in England.⁶⁶ As in America the unions have the double object of resistance and assistance. Subsidies to strikers and discharged workmen, assistance to other trades when on strike, contributions to federations, funeral-, work-, and traveling-benefits, assistance to wounded members, insurance against loss of tools, publication, education, sick-benefits, cost of the meetings and the proceedings, those are the principal objects of expenditure. For more than twenty years the trade-unions have held an annual congress. Here they discuss labor questions and pass resolutions which in latter years have been inspired in an increasing degree by the socialists. For several years past the unions have shown a tendency to form federations of unions in the same or in allied trades, and in several important centers trades-councils have been created. During these years a disposition known as "new unionism" has manifested itself particularly at the congresses, and from England it has spread to America.⁶⁷

New-unionism, which some publicists state originated during the great strike at the London docks, connotes

⁶⁶ The official figures for 1897 are as follows: The total number of unions was 1287 (567 registered unions and 726 unregistered unions); the aggregate membership 1,609,909; the total receipts of 100 principal unions 1,981,971 pounds, total expenditures 1,896,072 pounds. In the six years 1892-1897 these 100 unions expended 23½ per cent of their total disbursements for dispute payments, 59½ per cent for unemployed and other benefits, 17 per cent for working expenses. [Tr.]

⁶⁷ See *L'Ouvrier Américain*, pt. iii, ch. vii.

vaguely a form of organization in which the insurance feature is to be relegated to the background and all efforts concentrated upon the attack. It calls upon united labor to support successively every body of workmen that brings issue upon a specific point and in this way hopes to give to the lower classes of labor that power of resistance which until now has been possessed by the higher classes only. It addresses itself less to the employer than to the State and demands the settlement of the labor problem in accordance with the views of the labor-organizations. The means proposed are laws for compulsory arbitration, inspection and regulation of factories, etc., which will destroy the authority of employers over their own workshops. The new unionists are closely associated with the collectivist party, but do not merge their identity in it, because they regard their own programme as the more politic and, in reality, the more practical."⁸⁸

Between the old and the new unionism there is a diversity of tendency if not an open quarrel. The secretary of the national cigar-makers' union gave voice to this difference in his report for 1894,⁸⁹ and many other evidences of the same feeling could be cited. In the joint conferences of the American Federation and the English trades-unions, socialistic measures prevailed so long as the vote was by unions,

⁸⁸ For England see the first volume of Lavollée's *Classes Ouvrières en Europe*, chap. x.

⁸⁹ The secretary expressed himself as follows at the Milwaukee convention of the Cigar-Makers' International Union, in 1894: "The system of the subdivision of labor, employed under modern means of production, renders it impossible for the individual to assert his independence. Each worker is dependent upon the other, hence the only means whereby labor can defend its rights is by organization. It is impossible for one man singly to enforce the fulfilment of his desire for shorter hours and more compensation, yet it becomes an easy matter to attain both objects by uniform cooperation and concerted action upon the part of all the workers." Mr. Perkins adds that while he had no desire to discourage an independent political movement, the economic or trade-union movement should not be lost sight of. *American Federationist*, October, 1894, p. 169.

because the new unions, with relatively small memberships, were in the majority. But the complexion of the legislation has changed since the system of apportioning the representation of the unions in accordance with their respective numbers, has been adopted; the older and larger unions are more intelligently governed and have a greater respect for property rights.

In France, according to official statistics, the number of unions in 1893 was 1926, with an aggregate membership of 402,000 (about 208 per organization). In addition, there were 61 federations of unions, of which only three had more than 10,000 members and only seven between 5000 and 10,000 members. This showing is very inferior to that made by the English and American organizations, and it may be stated as a general fact that in respect to numbers, the organization of labor in France is far inferior to that in England and the United States. In this country the professional interests of the workingman are too often subordinated to politics.⁷⁰

Labor statistics in the three countries are neither exactly comparable nor wholly trustworthy, but they justify the following conclusions:⁷¹ In the last fifteen years, labor-organizations have increased greatly in all three countries; those of France are the least developed, not in respect to the number of unions, but in regard to the number of members, the size of the budgets, and probably in regard to organization and the practicability of their programmes; the English

⁷⁰ The returns for 1898 show 2361 unions in France with an aggregate membership of 419,761. Seventy-six federations of unions had been formed, and in addition, there were 1965 associations of employers and 1824 agricultural unions. Many of the unions are small, but in view of the fact that they were not legalized until 1882 notable progress has been made, with respect both to the number and the size of the unions. For a comparison of the trade-union with the French mutual-aid society, see *L'Ouvrier Américain*, part ii, chap. v.

⁷¹ See the *Journal Officiel* of Jan. 4, 1894, the *Report of the Work of the Labour Department of the Board of Trade* (1893-1894), and the *Official Book of the American Federation of Labor*, Dec., 1893.

unions are the richest and probably the best organized, but the moral and political conditions of America are favorable to the organization of labor, and at present the American federations and unions—international, national, and local—are pressing the English unions very closely in these respects.

The labor-union as now constituted is a comparatively recent form of association. It differs essentially from the old craft gild as its very *raison d'être* is the limitation of the employers' authority, while the gilds protected the masters in their ancient privileges. The gild was a combination of masters and workmen for the benefit of both; the unions institute strikes against the employers and at times resort to violence, a very rare occurrence under the old régime. The ancient masters cherished a deep affection for the gild—the bulwark of their privileges. Modern workingmen feel the same affection for the labor-union: it is the citadel which protects them, and from which they go forward to the attack. The New York Commissioner of Labor made himself the mouthpiece of the workingmen when he said:

"It is clear that the working people of the State have reaped innumerable benefits through the influence of the associations devoted to their interests. Wages have been increased; working time has been reduced; the membership rolls have been largely augmented; distressed members have received pecuniary relief; general conditions have been improved, and labor has been elevated to a high position in the social scale."⁷²

Hitherto, American law has failed to suppress the abuses of the union and confine its activity within the proper bounds. And yet, the legislature is plainly charged with such a duty; it arises not only from the necessities of industry and civil liberty, but from the interests of the institution itself, for the union will persist, and it is incumbent upon the law-makers to direct it as far as possible in the

⁷² *Twelfth Annual Report . . . New York*, pp. 15-16.

proper path. The organization of labor will elicit combinations of employers to an increasing extent in America, as it has done in Switzerland, and it is a serious question whether industrial liberty will not come to grief in the midst of the hostile associations which have sprung from its loins. One thing is certain: unionism imparts to the laboring class a power that it could not have so long as it remained a mere heterogeneous mass of isolated laborers. This power may be used for good or evil. When the union, in virtue of its tendency to monopoly, restrains the freedom of industry and impedes its progress; when it persecutes laborers who will not join or excludes those who desire to join; when it uses violence against property or intimidation against persons; and when, under the inspiration of false or utopian theories, it declares systematic war against capital and capitalists and thus paralyzes the progress of production by discouraging enterprise, its works are evil. In so far as it fosters prudence by providing insurance against sickness, old age, and infirmity; or aids workingmen to secure—with or without the strike—the most advantageous conditions of labor and the highest possible reward for their toil, its effects are beneficial. The labor-organization sets in motion a great mass of men under the control of a few leaders. If the policy of the latter is practical and conservative and the laws against violence are applied with enough firmness to discourage its employment, the union is capable of producing much that is desirable for the working classes. If these conditions are not fulfilled it must inevitably check the growth of national wealth.

In the United States the evils of the union would be greatly reduced and the benefits not diminished if the State and Federal laws demanded satisfactory guarantees of responsibility from labor organizations desirous of securing the privilege of incorporation.⁷⁸ In a country in which asso-

⁷⁸ In England every incorporated trade-union must have a code of by-laws which are open to the public, a legal residence, and must furnish the government every year with a statement of its receipts and expenditures.

ciation is entirely free there could be no objections to a law which imposed conditions such as the designation of the meeting place and the officers of the society, the annual publication of the financial condition and a deposit of the statement in the public archives, the liability of the society to the extent of its property and the liability of the officers in their persons and possessions. The union which enjoys the benefits of legal personality should bear the burdens necessary for the security of the public."

" "The commission note that trade unions (chap. ix) have rarely, if at all, taken advantage of the statutes permitting them to incorporate. Under the national act (U. S. Stats., 1886, chap. 567) not one prominent trade union has, in the thirteen years since its enactment, been incorporated." *Industrial Commission Labor Legislation*, p. 8. [Tr.]

CHAPTER V.

THE STRIKE



Strikes of the past.—For many years it was said in the United States, and repeated in France, that their social conditions protected the Americans from strikes. This statement would certainly not be made to-day, and it was an exaggeration even when made before the development of the great industries which followed the Civil War.¹ At every period, whatever the institutions and customs, disputes have arisen between workmen and employers in the United States, just as they have in Europe. The present is distinguished from the past by the gravity and frequency, not by the mere existence, of combination.

A record of the strikes and combinations of laborers in the United States has been published by the Department of Labor. The list is not complete but it runs back to 1741, the probable year in which the combination of bakers in New York took place, and from 1796, when a combination of the shoemakers of Philadelphia ended in an increase of wages and the punishment of several strikers, there is a continuous series. Michael Chevalier visited America in 1835, when combination was prohibited in France, and expressed surprise at the American customs. "Here," he said, "the laboring class feels its power, and combination is open." He mentioned public assemblies held in New

¹ Mr. Albert S. Bolles, in his excellent little manual, *Chapters in Political Economy*, said as late as 1874: "In this country we have never been troubled by this question. . . ." "Strikes in this country have not been very serious nor long protracted," pp. 31 and 33.

York and Philadelphia, the latter of which, a meeting of seamstresses, was presided over by the economist, Carey, assisted by two clergymen; at another place the bakers struck against making bread on Sundays. He noted also that violence sometimes was used—strikers chasing the workmen who would not quit work with sticks and stones, and carpenters in Philadelphia setting fire to houses which their employers were building; he noticed also that the municipal authorities were favorable to them.² Some years later, however, a well-informed American writing in French and for European readers, said that, owing to the very freedom which existed in America, it was "excessively rare that a collision occurred between society and the laboring class."³ Nevertheless a series of strikes occurred in the first third of the nineteenth century, beginning with that of the sailors, whom the constables dispersed by force, at New York in 1803. At Dover, N. H., in 1827, the female hands of a weaving mill struck on account of being questioned and fined for lateness, and in 1829 the immigrants who had been brought from Europe to work on the Chesapeake and Ohio Canal went on a strike, were arrested, and released only after a writ of habeas corpus had been sworn out.

Since 1830, hardly a year has passed without a strike being recorded, although there were only three years before the war in which the number exceeded ten.⁴ Strikes were thus very infrequent before the war, but they increased rapidly afterwards: the Sons of Vulcan alone supported 87 from 1867 to 1875, and the Cigarmakers' International Union 78 from 1871 to 1875. There was a sudden increase to 762 in the year 1880. Most of these strikes were short, but not all of them; the iron-workers' strike at Pittsburg in 1842 lasted five months, for example, and the shoe-

² *Lettres sur l'Amérique du Nord*, II, 160.

³ *De la Puissance Américaine*, by Guillaume Tell Poussin, ch. xxiii (2 vol., 1843).

⁴ Eleven in 1835, thirteen in 1853 and the same number the following year.

makers' strike in Massachusetts in 1850, cost the workmen at least \$200,000 in wages.⁸ Out of the 1491 strikes and lockouts recorded from 1741 to 1880, 1089 were caused by differences about wages. According to the official statistics, 316 resulted favorably for the workmen and 583 unfavorably, 154 were compromised, and in 438 cases the result was unknown.

Statistics of strikes from 1881 to 1886.—During the six years, 1881-1886, for which the Commissioner of Labor has given detailed statistics, the recorded strikes number 3902, and the lockouts 2214; the former affected 22,304 establishments and 1,323,000 persons;⁹ four-fifths of these disputes occurred in Massachusetts, New York, Pennsylvania, Ohio and Illinois. The principal causes were demands for higher pay and a shorter working-day.⁷ The declaration of the strike necessarily comes from the workmen, upon whom it entails hardship from beginning to end. "The strike," said one of the Commissioners of Labor of New York, "is a present positive sacrifice for a future possible good, and it is an assertion of the workman's freedom in his business relations."⁸ Strikes are sometimes instigated secretly by manufacturers who are over-stocked.⁹

⁸ *The World Almanac and Encyclopedia*, 1895, p. 96.

⁸ 88.4 per cent male, 11.6 per cent female.

⁷ The proportional distribution of causes for the period 1881-1886, was as follows:

Cause.	Per cent.
For increase of wages	42.32
For reduction of hours	19.48
Against reduction of wages	7.77
For increase of wages and reduction of hours.....	7.59
For reduction of hours and against being compelled to board with employer	3.59
For change of hour of beginning work	1.61
For increase of wages and against the contract system.	1.07
For other causes	16.57

Third Annual Report of the Commissioner of Labor, p. 17.

⁸ *Annual Report of the Bureau of Statistics of Labor of the State of New York for the Year 1890.*

⁹ "Labor is not always at fault. It is a Godsend sometimes to have a strike when there is an overproduction.

These strikes with that of the telegraphers in 1883 and that of the railroad employees in the Southwest in 1885 and 1886, created great disturbances, besides being very costly; the loss to employers was estimated at \$34,000,000 (30,700,000 on account of strikes and \$3,400,000 on account of lockouts by employers), and that to employees at \$60,000,000 (\$51,800,000 on account of strikes and \$8,200,000 on account of lockouts). The Commissioner calculated that in cases where the strikers obtained the increase demanded, or a part of it, 99 working-days were required on an average to make up for the wages lost during the strike.^a

Statistics show that only about one-half the strikers are benefited; in every 100 persons involved, 39.2 participate in successful strikes, 49.9 in unsuccessful strikes, and 10.9 in partially successful strikes. The proportion of strikers seems greater in America than in France or England. After the dispute, the number of employees is found to be reduced about 3 per cent, on an average, and about 6 per cent of the old workmen have been replaced by new employees.¹⁰

The strike and the lockout are dangerous weapons, and although they sometimes bring victory, they invariably wound those who use them.

Strikes since 1887.—Since the investigation of the Department of Labor,¹¹ strikes have continued to occur, and have increased rather than decreased in number and gravity. From 1881 to 1887 there were on an average 765 strikes a year; from 1888 to 1894, 1292 a year, while in 1890 the number rose to 1833. The number of workmen involved has increased, reaching an average of about

^a *Question.*—You think capital may then stimulate the strike?

Answer.—I think it is done very frequently.

^a *The Chairman.*—Some other witnesses have testified to that effect." *Labor and Capital*, ii, 219.

^a *Ibid.*, p. 191.

¹⁰ *Ibid.*, p. 13.

¹¹ The original investigation has been brought up to the year 1894 in the *Tenth Annual Report of the Commissioner of Labor*.

271,000 per annum, while at the same time the proportion of successful strikes seems to have fallen; only about 43 out of every 100 strikes succeeded between 1888 and 1894. The evil effects of some of these strikes were felt even in Europe.

An examination of the strikes and lockouts between January, 1881, and June 30, 1894—the period covered by the official records of the Department of Labor—shows that about 15,000 strikes were held which involved 70,000 establishments and 4,000,000 employees. The latter were successful in a little less than 45 strikes out of every hundred, but they suffered a loss of \$190,000,000, while the employers lost about \$95,000,000.

For some years after 1885 the Bureau of Labor Statistics of the State of New York published annually a statistical account of strikes and boycotts in that state. In the special report upon strikes published in 1873, the Commissioner of Labor stated that a better feeling undoubtedly prevailed between employers and employees than in previous years, and mentioned that only 2398 strikes had occurred in New York in 1892, while in 1891 there had been 4519, and in 1890, 6258. He estimated approximately, that the employers lost \$353,915 in 1892, and the employees \$815,758.¹² Nearly 2000 employees had been unable to secure their old positions after the strikes, and many manufacturers had been unable to resume business.

In New York in 1892, of the 35,824 persons involved in strikes, 8486 struck for an increase of wages, 4503 against a reduction of the hours of labor, 2313 against the employment of non-union workmen, 2266 against a reduction of wages, and 2836 on account of refusals to renew agreements; the persons engaging in sympathetic strikes numbered 6948. These are the principal causes of strikes in all the states of the Union.

The results of the New York investigation seem a little

¹² *Tenth Annual Report*, p. 3

more favorable to the workmen than those obtained in the wider investigation made by the Department of Labor. Considering all the strikes in New York during the eight years 1885-1892, it is found that 531,000 persons and 22,559 establishments were involved, of which 15,280 establishments yielded to the demands of the strikers; the gain to workmen resulting from the increase in wages was \$9,800,000, the loss to employers \$6,400,000, and the total loss to industry \$9,800,000.

The report for the year ending October 31, 1895, records 417 strikes, of which 313 occurred in Brooklyn and New York city. Demand for higher wages (151 strikes), or the discharge of non-union workmen (94 strikes), and refusal to accept reduction of wages were, as usual, the principal causes. According to the statistician, 67 strikes out of every hundred were successful;¹⁸ the proportion seems very high.

The sympathetic strike.—The sympathetic strike is peculiarly American; it has been more frequent in the United States than elsewhere, probably because labor is more strongly organized there than in any other country with the exception of England. It is not at all essential in this kind of strike that there should be a difference between the workmen who strike from sympathy and the employers against whom the strike is directed. The feeling of solidarity is the sole motive that inspires it; the workmen voluntarily sacrifice their wages in order to support the demands of some other body of workmen who have gone on a strike; their object is to coerce the employers by aggravating the annoyance which results from the cessation of labor in one industry. It is apparent that an undertaking of this nature can be concluded and maintained only where labor is thoroughly organized. One of the Commissioners of Labor who seems not always to have

¹⁸ In the 381 strikes of which the results were known, the strikers succeeded in 259, failed in 82, and compromised in 40.

observed a strict impartiality in his judgments upon these questions, says: "The sympathetic strike is one in which the strikers, having no grievance of their own, take action out of belief that another body of workers is not treated fairly, and so take up the cause. The effect is prodigious; greater, indeed, than that of the strike direct."¹⁴

Statistics upon this species of the strike are given in the New York report from which we have just quoted.¹⁵ In 1890, 8534 persons engaged in sympathetic strikes; the cost to employers was \$25,076, and the loss in wages \$250,393; 114 strikers were not reinstated in their old positions, but 644 out of the 732 establishments involved were compelled to yield to the strikers. The most of these combinations had occurred in the building trades, but the most important sympathetic strike in 1890 was that of the cloakmakers and allied operatives, 2603 of whom quit work in order to support the demands of the striking cloakcutters; they lost in wages nearly \$183,000, but compelled all their employers, 109 in number, to yield.¹⁶ In 1892, in the same state, 738 establishments and 6943 employees were involved in sympathetic strikes which, according to the report, cost the workmen \$206,513 and the employers \$64,861; 377 of the 738 strikes were successful.¹⁷

These figures are fairly representative of the course of events in other states. On the other hand, the following description of an agreement entered into by the builders and carpenters of Chicago, through their respective committees of arbitration, will give an idea of how the workmen regard the sympathetic strike; the agreement was adopted February 20, 1893, at a most fav-

¹⁴ *Eighth Annual Report of the Bureau of Statistics of Labor of the State of New York*, part ii, p. 935.

¹⁵ *Eighth Annual Report*, pp. 936-949.

¹⁶ *Ibid.*, p. 938.

¹⁷ Tenth Annual Report, . . . part ii, pp. 134-138. [In American statistics, a separate strike is usually counted for each establishment involved.]

orable period for the workmen on account of the building necessitated by the Exposition. The work will continue without interruption, one of the articles provided, and all parties will submit to the decisions of the joint-committee of arbitration. It is stipulated, however, that the work may be stopped at any time by an order signed by the presidents of the two organizations, the stoppage to continue until the joint-committee of arbitration has made known its decision. But it is understood and agreed that if it becomes necessary for the contracting parties to take part in a sympathetic strike upon any building, in order to assist another trade, the presidents of the two associations shall order all work of carpentering upon the building to cease, until the difficulty is adjusted. Such strikes shall not be considered acts of hostility against any member of the employers' association, and in event of their occurrence it is agreed that the union of carpenters will guard and protect the property of builders signing this agreement, so far as in their power, against all damages which such strikes entail.

The same stipulations, in terms very little different, are found in the agreements of other trades.¹⁸ A sympathetic strike on any building, says the agreement of the Lathers' Union, shall not be considered a violation of this agreement. That of the painters and decorators is more explicit: It is understood and agreed that in case it is necessary for the workmen participating in this agreement to take part in a sympathetic strike on any building, in order to defend the principles of union, the agent of the district council of painters shall order all work of painting to cease until the difference is adjusted, and this interruption shall not constitute an act of hostility towards any contractor or other signer of this agreement. If such a strike occurs, it is agreed that the painters of the union will guard and

¹⁸ I have before me ten agreements of this kind which I brought back from Chicago, and the collection is far from complete.

protect the property of the contractors, so far as is in their power, from all damages incident to such strikes.¹⁹

The Homestead Strike and the Pinkerton Detective Agency.—In 1892 the corporation entitled the Carnegie Steel Company possessed seven or eight establishments situated in the vicinity of Pittsburg; the capital stock representing these establishments was \$25,000,000,²⁰ and the employees numbered about 13,000. Of this number, 3800 worked at the Homestead Steel Works, situated about six miles from Pittsburg. In several of their establishments the company had refused to treat with labor organizations because of strikes that had occurred, but at Homestead an agreement had been made with the Amalgamated Association of Iron and Steel Workers in 1889, by which wages were adjusted to a piece-rate sliding scale of prices; under this scale, according to reliable testimony, wages varied from \$1.40 to \$12 a day.

This agreement, adopted for three years, covered only about 800 workmen, who were members of the Amalgamated Association; the other 3000 workmen, among whom were many Bohemians, Hungarians, and other foreigners, worked by day or under individual contracts.

The agreement being about to expire, the association proposed a higher scale, and the company a lower one, the latter justifying the reduction on the grounds that the price of steel had fallen, while newer machinery had been introduced which increased the productivity of the work-

¹⁹ I have been unable to obtain copies of the original agreements, so that the text is a retranslation of Professor Levasseur's French rendition. [Tr.]

²⁰ Their actual value was very much greater than this. The new Carnegie Steel Company, which includes the old limited company and the H. C. Frick Coke Company, is capitalized at \$160,000,000, of which Andrew Carnegie owns \$86,379,000. It is stated on good authority that the company intends to issue bonds to the amount of \$160,000,000, which would bring the total capitalization up to \$320,000,000, of which \$250,000,000 is represented by the assets of the Carnegie Steel Company Limited. [Tr.]

men.²¹ The workmen contested the claim resting upon the introduction of new machinery and refused to accept a reduction of the minimum or base of the wage-scale, on the grounds that they had no voice in the fixation of the price, and did not wish to accept the possible consequences of a depression which they would be powerless to prevent. Several conferences between representatives of the company and the association having been held and no agreement concluded, the company declared its intention of enforcing the new scale; this would have reduced the wages of 325 workmen of the higher grades from 15 to 30 per cent, probably about 18 per cent on an average.²²

The workmen having been told that Mr. Frick's special aim was to destroy the Amalgamated Association, he was hung in effigy, together with the superintendent, who had managed to conclude a three years' contract with a great majority of the workmen. On June 28 the company began closing the works, and on the first of July the strikers took possession of the gates and even induced the foremen to quit work.

The following events occurred in rapid succession: On June 24 the eight lodges of the Amalgamated Association each named five delegates, who with ten other delegates constituted an "Advisory Committee."²³ This committee of fifty managed to enlist all the workmen, who, without regard for the contracts which they had just signed, joined

²¹ The President, Mr. Frick, estimated that the production of the 119-inch (armor) plate mill had been increased from 2500 to 5000 tons a month by the introduction of new machinery.

²² During the strike the association spread the report that the new scale reduced the wages of unskilled laborers but did not affect the higher workmen. See the report of the special committee of the Senate entitled *Investigation of Labor Troubles*, p. 114: *Senate Report No. 1280*, 52 Cong., 2 Sess.

²³ The president of this committee, Hugh O'Donnell, was an iron-heater who had made \$199.18 in the month of May; under the new scale, according to Mr. Frick, he would have made \$120.75. O'Donnell testified that his own wages would have been affected but slightly.

forces with the Amalgamated Association. The committee secured complete control of the works and town, and the strikers were organized in three divisions, each of which kept guard for eight hours; there was also a reserve corps of 800 Slavs and Hungarians under the command of special chiefs. Guards were placed at the gates of the works and the strikers encamped in an enclosure of about forty acres, bounded on one side by the Monongahela river and surrounded on the other three sides by a high plank fence which the company had erected a short while before. The terminus of the railroad was occupied and the order was given not to allow any person to get off who did not have a pass from the committee; outposts were stationed on the roads leading into Homestead; a small steamboat and row boats patrolled the river; a code of signals by flags, steam whistles and fires was adopted. It was in reality a military occupation.

The employees of the company at Pittsburg, the legal residence of the corporation, no longer had access to the Homestead works and the action of those who lived in the town was completely paralyzed. On the second of July it was reported that smoke had been seen coming from one of the chimneys of the works, and the committee suspected that the company was about to begin work with non-union labor. They immediately sent a message to the superintendent informing him that unless the fire was immediately extinguished, they could not be held responsible for any act that the men, who were greatly excited by the smoke, might commit. In popular outbreaks of this kind it is either anarchy or despotism, and in this case it was despotism; to prevent dissensions, the committee had placards placed in the hotels and other public places, which read: "By order of the advisory committee, all discussion of the question of wages is absolutely prohibited here."

As early as the twenty-sixth of June, the company had warned the sheriff, through their attorney, of the imminence of the strike and of their intention to import 300

"Pinkertons" to guard the works; they asked that these men be sworn in as deputies, and on the fourth of July repeated their request, stating that they had brought men from the Pinkerton agency, whom they desired to be invested with the official character of deputy sheriffs.

The sheriff came to Homestead in person and conferred with the committee. The latter proposed that a number of workmen be deputized to guard the property of the company, but the sheriff replied that this was impossible, as it would simply put the association in legal control of the works and aid them in keeping out any non-union workmen with which the company might try to renew operations. He had proclamations posted prohibiting disorderly assemblages and any attack, threatened or overt, upon the property of the company. These proclamations were all torn down and destroyed.

On his return to Pittsburg the sheriff tried to collect a posse of 100 deputies, but was unable to secure more than twelve who, under the direction of a chief deputy, proceeded to Homestead. Not only were they prevented from entering the works, but they had to invoke the protection of the advisory committee to escape violent treatment. The company seems to have been convinced that the sheriff did not manifest all the energy and good will that they had a right to expect."

" "Have you found the sheriffs, constables and other township officers insufficient for that purpose?" asked the chairman of Mr. Frick. "Yes, sir," the latter responded. *Senate Report*, p. 161.

Mr. Pinkerton in his testimony before the Senate Committee (p. 255) said: "I think the trouble in connection with strike matters has been that politics has had too much to do with the question. I believe that almost any section of this country is abundantly able to take care of itself if the officers will do their duty, but the trouble has been that many of these officers join labor organizations themselves for the purpose of promoting their own interests in a political way, and you take it in certain sections of the country and it is utterly impossible for the sheriff to get a posse together that will not be in sympathy with the strikers and whom he can control."

The report of the House Committee on the same subject contains this condemnation: "We quite agree with him that the sheriff, Mr. McCleary, is a very inefficient officer."²⁵

President Frick had learned a lesson by an experience with striking workmen in 1889, and as early as June 25 he definitely engaged 300 guards from the Pinkerton Agency at a cost of \$5 a day per man.²⁶ The men arrived secretly, some from Chicago and others from the East, while the agency hastened from Chicago 250 Winchester rifles, 400 revolvers and as many batons; everything was done secretly and many of the men did not know the nature of the mission upon which they had been sent. Two barges towed by tugs conveyed the men and the weapons, which had been supplied to them *en route*, from Pittsburg to Homestead, on the night of the fifth of July; the superintendent of the company and the chief deputy sheriff accompanied them.²⁷ An accident to one of the tugs caused a delay, so that instead of landing and taking possession of the property under the cover of night, they arrived at four o'clock in the morning.

The strikers, who had been forewarned by friends at Pittsburg, were aroused by the whistle of their little patrol boat. A crowd of armed men, women and children rushed to the river and received the boats with cries and threats.

I have seen the place. The river is not wide but its banks are steep. By the side of the landing stands the pump-house from whose windows the strikers could fire; a steep road, almost parallel to the river, runs from the landing to the works.

The Pinkerton men were not experienced in such affairs.

²⁵ *House Reports*, 52 Cong., 2 Sess., vol. iii, Report No. 2447, p. 11.

²⁶ The wages of these men seem to have been \$2.50 a day with board and lodging. *Senate Report*, p. 137.

²⁷ The correspondence between the Carnegie Company and the Pinkerton Agency may be found in the *Senate Report*, pp. 161 and 235.

In his testimony, Mr. Pinkerton repeatedly asserted that it was his custom to hire only men about whom he had sufficient information, but this does not agree with the testimony of a witness who had been enrolled one night after a few moment's conversation on a Chicago sidewalk," nor with that of one of the detectives in charge of the men, who declared that they were a parcel of cowards." One thing is certain: Mr. Pinkerton cannot flatter himself with having collected a very élite force, measured according to the standards of his profession. Besides supplying guards for property threatened by strikers, the agency undertakes to introduce detectives into labor organizations as spies. Mr. Pinkerton naturally spoke as little as possible of the latter, but the testimony upon the point was positive, and the prospectus of the firm mentioned this kind of work.²⁹ One workman testified that there was scarcely a labor organization in existence which did not number Pinkerton men among its members, and these, he said, were usually very active in fomenting strikes.³¹

The Pinkerton agency was founded in 1850 by the father of the present Pinkerton brothers, and previous to the

²⁹ See *Senate Report*, p. 137.

³⁰ Mr. Pinkerton: "A large number of these men were our regular employees who could be thoroughly trusted for integrity, prudence and sobriety. The remainder were men whom we employed from time to time or who were known and recommended to us." *Ibid.*, p. 235.

Charles Nordrum, sub-chief in charge of the Pinkerton force, in reply to the question: "What was the quality and character of the men sent out on that expedition, so far as you observed?" answered: "There were some of the worst cowards on that barge I ever saw in my life." *Ibid.*, p. 143.

³¹ "The Pinkerton Protective Patrol is connected with Pinkerton's National Detective Agency, and is under the same management. Corporations or individuals desirous of ascertaining the feeling of their employees, and whether they are likely to engage in strikes or are joining any secret labor organizations with a view of compelling terms from corporations or employers, can obtain, on application to the superintendent of either of the offices, a detective suitable to associate with their employees and obtain this information." *Senate Report*, p. 62.

³² *Ibid.*, p. 113.

Homestead affair had furnished guards in seventy strikes.²² It is not astonishing, then, that the Pinkertons are in bad repute with the unions. In the Congressional investigations Mr. Powderly made himself the vehement mouthpiece of their hatred and attributed to the agency numerous outrages which Mr. Pinkerton in turn denied.²³ The latter thinks that the police and regular militia, when called upon to suppress mob violence, are quite as unpopular as his men. On this question, however, the investigating committee of the House of Representatives expressed a contrary opinion, and the general sentiment has been that the intervention of this hired police aggravates the evil by the irritation which it produces. One member of the committee, Mr. Ray, made express reservations upon this point,²⁴ but the committee, as we have said, declared that the employment of Pinkerton men was contrary to no law of the State of Pennsylvania, that the practice had "grown very largely out of the sloth and dilatoriness of the civil authorities to render efficient and prompt protection to persons and property," but that it was "well calculated to produce irritation among the strikers, frequently resulting in hostile demonstrations and bloodshed." They were of the opinion that corporations should be denied the power of using this agency without the permission of the state government, and that it was much preferable to rely solely upon state officers. "Exasperated strikers will not molest or resist the officers of the state, when, under exactly similar circumstances, they will assault the watchmen or guards hired by corporations."²⁵

²² *Ibid.*, p. 259. Mr. Pinkerton said that in all these strikes they had only two men killed. This was flatly contradicted by one of their old employees, who testified that in 1886 in an affair in Wyoming in which he was concerned, sixteen Pinkerton men had been killed.

²³ One witness said that a strike in the Chicago stockyards in 1886 would have been settled by arbitration had it not been for the interference of the Pinkertons. *Ibid.*, pp. 111, 112.

²⁴ *House Report*, p. 49.

²⁵ *House Report*, p. 15.

However this may be, before the barges carrying the 300 men reached the landing, they were fired upon from a small boat belonging to the strikers; a moment later, when the first barge threw out its gang-plank, the crowd arrived on the high bank opposite, while a part rushed down to the landing and met the Pinkertons with a fusillade of stones and bullets that wounded their leader and killed a number of the men. The Pinkertons answered with a volley, but although a part of the mob fled, none of the Pinkertons landed.³⁶ According to the testimony of Captain Heinde, it seems that only twelve men had been furnished rifles.³⁷

The two barges drew back from the bank and rested in mid-stream, while Col. Gray, the deputy sheriff, took the wounded to a hospital in one of the tugs. When he returned a few hours later, the crowd reappeared on the bank; they had built a breastwork along the shore out of iron girders and scraps, occupied the opposite bank, and even brought up a small copper cannon; the strikers fired from behind their rampart, while the Pinkertons fired from portholes which they had made in one of the barges. The tug was received with a fire so severe that Col. Gray could not approach the barges, but was compelled to steam on to Pittsburg and leave the Pinkertons to their fate; the action could hardly be called heroic.

The strikers then tried to blow up the barges with dynamite, and to burn them by throwing oil into the river and firing it; but the oil did not reach the barges. Finally, about five o'clock in the afternoon, realizing that they could not get away without the tugs, the Pinkerton men hoisted a white flag and made terms with the advisory committee. Seven had been killed and twenty or more wounded. They were allowed to retain their clothing, but their arms and everything else were taken away. The two barges were burned. The prisoners were led up to

³⁶ See among other testimony, that of Charles Nordrum, *ibid.*, p. 141.

³⁷ *Ibid.*, p. 269.

the skating-rink between two ranks of infuriated men, women and children, and on their march were outrageously maltreated. "I must say that they were subjected to very inhuman treatment," said the chairman of the advisory committee, who got the Pinkertons out of town as soon as it was dark.

Of the strikers, according to one witness, eleven were killed. The following day the committee made desperate efforts to remove all traces of the battle, and the chairman visited the Governor to assure him that all was calm at Homestead, that the property of the company was being respected, that there was no necessity of calling out the militia, and that their presence would have an unfortunate effect upon the minds of the workmen. The town remained in the power of the advisory committee for several days, during which arrests were made and decrees of exile pronounced; no suspected journalist was allowed in the hotels and all outgoing telegrams were censored. The agitation reached Pittsburg, where the life of Mr. Frick was threatened.

Finally, martial law was proclaimed and Major General Snowden arrived with a force large enough to overawe resistance. He occupied the town and arrested several strikers while many others left town. But most of them remained, and a deep feeling of irritation lingered for a long while in the minds of the laboring classes; the events of the strike had intoxicated them and they had come to regard the works as their own, so that they looked upon the reinstatement of the owners as an usurpation and the introduction of new workmen who accepted the new scale as an unpardonable offense. Those who were arrested were tried before the Supreme Court of Pennsylvania on the charge of inciting civil war, and several were convicted of treason.²⁸

²⁸ See the brochure entitled: *In the Supreme Court of Pennsylvania. In the Matter of the Insurrection at Homestead. Application for Leave to Present an Information to one of the Supreme Court against the Insurgents for Treason.*

"Do you think it (the strike) has benefited the cause of labor in any way?" was asked of a workman testifying before the committee. "I think it has learned labor a lesson, as all strikes do. *Question.*—What lesson? *Answer.*—It gives them more knowledge, teaches them how to prepare for the next, and makes them more cautious in the future. There has never been a strike since we knew anything about labor at all that has been injurious altogether. They have resulted in some good. They have stiffened the backbone either one way or the other. They have made us more intelligent. They have taught us to get nearer to arbitration."³⁹

The House Committee was not unanimous in its report upon the employment of Pinkerton detectives. The majority reported that the strike at Homestead had no connection with the tariff; that the employment of Pinkerton men was not illegal; that notwithstanding this, Mr. Frick was censurable for not having brought greater pressure to bear upon the sheriff, and for not applying earlier to the Governor for official protection; that the workmen, on their side, had not committed an illegal act in stopping the foremen at the gate and persuading them to strike, but that they afterwards became violators both of private right and public peace when they refused to allow the sheriff to take possession of the works; finally they recommended that every state should pass a law prohibiting or regulating the employment of Pinkerton guards within its jurisdiction. "If the washerwoman of Burgess McLuckey or Hugh McDonnell refuses to wash for what he is willing to pay, that is her right, but she has no right to stand in front of his door and fling stones at another woman who comes to take her place and do the work under the new scale of wages which he is willing to pay."⁴⁰

The result has been that many states, including New York (in 1892), Arkansas, Colorado, Minnesota, New

³⁹ *Senate Report*, p. 114.

⁴⁰ *House Report*, p. 16.

Mexico, and Wyoming, have passed laws prohibiting the employment of deputy sheriffs, armed guards, etc., who are not American citizens and residents of the State.⁴¹

However frequent strikes may be, events and lessons of this kind are rare in the history of the laboring classes of the United States.

The strike at Pullman City in 1894.—The Pullman strike was one of the most important known to history in the extent to which it engaged the press and public opinion, and particularly in the astonishment which it caused among European philanthropists whose confidence in the sovereign efficacy of industrial patronage had been too serene. It is not necessary to describe here the organization of the city of Pullman, which is now a part of Chicago. The land upon which the city was built, it will be remembered, was owned by Mr. Pullman and situated some distance from the city of Chicago; here Mr. Pullman erected his vast shops for the repair and construction of railroad cars which he both sold outright and operated on his own account by contracts which he had made with most American railway companies. Mr. Pullman had built a veritable city, the houses of which he owned and rented to his workmen. The place contained about 14,000 inhabitants.⁴²

In 1892 and the first half of 1893 business had been very brisk at Pullman; five or six thousand workmen had been employed and wages were high. The railroads were increasing their rolling stock for the World's Fair. But a crisis which had been threatening for a long time suddenly manifested itself and work fell off, the situation being worse because the railroads had previously laid in an extra supply of cars. The works were kept busy for a while in repairing Pullman cars, but business languished and Mr. Pullman finally reduced wages. It was winter and the men murmured, complaining that while wages had

⁴¹ Regulations of similar import have since been enacted in at least thirteen other States and Territories. [Tr.]

⁴² See *L'Ouvrier Américain*, part ii, ch. iii, and part iii, ch. iv.

been reduced a third and in some cases a half—the real reduction seems to have been about 25 per cent—rents were not changed.” Several workmen were ejected. “There will be trouble in the spring,” people said to themselves.

The demand for the old wages was denied, and the workmen appealed to the newly-formed American Railway Union; the president, Eugene V. Debs, advised them not to strike until the union was in a condition to support them. The workmen had two interviews at the City Hall of Chicago with the company; the first on the seventh of May with a manager, the second, two days later, with Mr. Pullman himself, who described the situation of the company, asserted that he had accepted orders at a loss in order to give the men work, and that, consequently, it was impossible to raise wages; he promised to examine their grievances and not to discharge the workmen who had led the movement. Notwithstanding this, three of the leaders were discharged on the following day, and the committee which examined the complaints decided, without having heard the workmen, that they had no basis.

Upon this news the ill-feeling became very intense. Assembling secretly on the following night, the delegates of the local unions of Pullman City decided unanimously to strike at noon the next day. In the morning, while the men were in the shops, the news spread that Mr. Pullman had decided upon a general lockout, to take effect at noon. The majority decided to anticipate the lockout and quit work immediately; others waited until the appointed hour. A small number, about 600, attempted to return to work in the afternoon, but found the doors closed by order of Mr. Pullman, and placards posted announcing that work was suspended for an indefinite time. The procedure of both sides led to the same result—idleness.

⁴⁰ One champion of the workmen claims that certain workmen had to use a whole half-month's wages to pay their rent. For the facts, see *The Pullman Strike*, by William H. Cawardine, p. 72, although this brochure itself is a brief in the workmen's behalf.

The peculiar organization of Pullman City was calculated to complicate the affair. It had seemed hard to the workmen that rents had not been reduced when wages were cut, but it was still worse when they received no wages at all. The management did not demand bi-monthly payment, as before the strike, it is true, and during the strike no workman was ejected for non-payment; but the rent was due and the debt kept rolling up, to the profit of those who withheld the means of canceling the debt. Mr. Pullman defended his course by saying that he had not compelled the workmen to occupy his houses, and that wherever they were, they would have to pay rent. True enough, the workmen answered, but it is notorious that workmen who do not live in the company's houses are held in suspicion and, in spite of the denials of Mr. Pullman, are the first to be discharged when work becomes slack. Rents, moreover, Mr. Pullman to the contrary notwithstanding, are higher than in neighboring places, and though certain superficial luxuries are supplied, they have to be paid for; water and gas, for instance, impose heavy additional burdens upon the inhabitants."

Mr. Pullman presented a statement of the financial condition of the company: the capital stock was \$36,000,000, and there was a reserve of \$24,000,000; in the year ending July 31, 1893, the receipts had been \$11,400,000, of which \$3,800,000 had been spent for materials and labor, \$2,500,000 in dividends, and \$1,100,000 for miscellaneous items: it had been a prosperous year. But things were less satisfactory in the next year; "if orders had not been obtained by bids which involved a loss to the company, there would have been no work and no wages for the employees. It seemed just, in consequence, to Mr. Pullman that the

"According to *The Pullman Strike*, by Rev. W. H. Cawardine.

"The employees, according to this statement which differs from that of Mr. Cawardine, numbered 14,636 in 1893, and the wages amounted to \$7,751,000; in 1894, the employees numbered 10,858, and the wages amounted to \$4,968,000.

workmen in whose interests the work had been accepted, should bear a part of the loss.⁴⁶ He was willing to prove by his books that there had been a real loss, but he was unwilling to resign his rights as proprietor by submitting to arbitration a question whose decision was his alone.

But Mr. Pullman is not an ordinary employer, said the workmen. It is true enough that he has built up a gigantic industry by his intelligence, but the company has accumulated a reserve equal to two-thirds of the capital, part of which it owes to the labor of the workmen, and it seems only just that the surplus accumulated in the years of plenty, should be levied upon first in the years of famine.⁴⁷ This argument, which is not wholly irrelevant, made a great impression in America. But it raises a grave question: who has the best claim to the surplus profits of an undertaking after all the expenses of production, wages and other charges have been paid?

Carroll D. Wright, whose authority is great and whose independence is above suspicion, expressed the opinion that this strike marked an epoch in the history of labor. Society, he said in a lecture upon this subject, had by its laws and customs contributed to the building up of the great fortune of Mr. Pullman. Have we not reached the point, he asked, where we ought to recognize that labor has rights? The question is "ethical and not economic." The thought of the speaker crystallized in the proposition

⁴⁶ Even if the new contracts did involve a loss, the workmen objected, the repairs made in accordance with existing contracts were at the old prices and while the reduction of 25 per cent in the piece-rate scale caused a loss of \$60,000 to the workmen in wages, the reductions made by Mr. Pullman, in order to obtain new orders, amounted only to \$50,000.

⁴⁷ In a lecture delivered at New Haven to the students of the Wesleyan University of Middletown, Conn., Carroll D. Wright drew a parallel between the capital of the company with its \$26,000,000 surplus and the capital of the workmen with their \$600,000 laid by in the savings banks; was it just, he asked, that the latter, relatively so insignificant, should bear the whole burden of the crisis?

that when a company wishes to reduce wages it should first show its books to a committee of the workmen. Otherwise the workmen have no confidence in the employer, as they know well enough that although he is willing to share the burdens of hard times, he is not usually very anxious to share the profits of prosperity. Moreover, when the workmen cannot move their homes or when employers have made an agreement or understanding between themselves, it is untrue that the workmen derive any benefit from competition between the employers. Col. Wright dismissed all measures which would tend to repress the activity of the individual, but he demanded the creation of a national strike commission with powers wide enough to educate public opinion, and hasten the development of strikes which could not be wholly averted.

The sympathetic strike of the American Railway Union and the Chicago riot.—The strike went on quietly for several weeks, and despite their irritation, the strikers offered to guard the works; an offer which was unfortunately suggestive of a similar one made at Homestead. On June 25, the American Railway Union held a meeting in Chicago at which 465 unions were represented, and it was here resolved to declare a general strike in sympathy with the Pullman workmen. This interference, which shortly afterwards was endorsed by the Knights of Labor, transformed the affair from a strike into a civil war. Under orders from the president, Mr. Debs, the union boycotted Pullman cars, all railway employees affiliated with the union refusing to couple or uncouple the cars, or handle them in any way, so that their circulation was rendered impossible. The employees of the railroads terminating at Chicago joined in the strike, but the most important union, that of the engineers, under the leadership of Mr. Arthur, refused to take part.

On the other hand, the powerful Railway Managers Association, which had been formed in 1886 by the managers of the twenty-four Chicago terminal lines, and which

in 1892 had adopted an agreement to pay uniform wages, sustained Mr. Pullman; they threatened the employees with a lockout, refused to negotiate with the committee of investigation appointed by the President of the United States, and caused the arrest of the leaders of the sympathetic strike who were released under heavy bond. The strikers set fire to the exposition buildings and, while the fire department was occupied in putting out this fire, burned cars and materials belonging to about twenty different companies. Troops occupied the city; the militia to aid the police in reestablishing order, the federal troops to regulate interstate commerce; 14,000 men were put in movement without establishing order. Violent disturbances occurred throughout the whole of Illinois and in a number of Western States; traffic was interrupted not only at Chicago, but at St. Louis, Cincinnati, Cleveland, and throughout the West; trains were stopped; freight yards were filled with loaded cars that could not be moved; the transportation of merchandise and mails between San Francisco⁴⁸ and New York was interrupted for fifteen days. A great amount of property was destroyed and a number of persons killed; armed mobs took possession of the trains and roadbed of railways, and even organized for a march to Washington. After a conference of labor leaders, Mr. Debs obtained the cooperation of the General Master Workman of the Knights of Labor and the heads of several other federations of labor, and using their dictatorial authority in these matters, they decided upon a gigantic sympathetic strike, to involve not only the railroads of the East, which had not yet been drawn into the fight, but the great industries of the country as well. This project was not carried out.

In Montana and Washington strikers drove the police back with guns in order to take possession of trains; in

⁴⁸ The loss to California fruit-growers during this time was estimated at \$50,000 a day.

Iowa, all the wagons and carts of the farmers were drawn upon to transport an "army of the unemployed" to Washington, and one of the bands, under Coxey, reached the Capital. The situation was extremely grave. To foreigners it seemed graver perhaps than it really was, and French readers, who got the facts with a high journalistic coloring, might well have believed that the existence of the great republic was in danger.

The state government either shirked its duty or was unable to perform it, but President Cleveland realized his responsibility, and although he was greatly restricted by constitutional limitations, found authority for federal interference in the clause of the constitution charging the central government with the maintenance of the postal service; the latter had been interrupted by the strikers.

Martial law being declared, the railroads were brought under the protection of the highest courts and the federal government. In other states the United States marshals gathered posses, prohibited the people from collecting or discussing the strike on the territory of the railroads, and arrested trespassers without warrants and in spite of the local magistrates. "Pay no attention to local officers or magistrates," said the marshal of Colorado. "If they interfere with you, arrest them."^a The Governor of Colorado protested against what he declared to be a violation of state right. Notwithstanding this, the federal troops were employed from the eighth of July on, and both Houses of Congress approved the course of the President.

After quite a while order was finally reestablished. The American Railway Union abandoned the strike in August, and towards the end of September the Pullman employees accepted the reduction of wages and went to work. The total loss occasioned by this great double strike, according to a most trustworthy source—Bradstreet—was at

^a *Fourth Annual Report of the Bureau of Labor Statistics of the State of Colorado*, p. 245 et seq.

least \$80,000,000. Many strikers were indicted by the courts and some convicted.

During July, at the most acute stage of the strike, President Cleveland appointed a commission of inquiry which immediately went to Chicago. More than one hundred witnesses were heard, and the report of the chairman, Carroll D. Wright, was very severe upon Mr. Pullman.

The report of the United States Strike Commission.—"As a result of the Pullman system and its growth," says the report of the commission, "when the depression of 1893 came, morally calling for mutual concessions as to wages, rents, etc., we found on the one side a very wealthy and unyielding corporation, and upon the other a multitude of employees of comparatively excellent character and skill, but without local attachments or any interested responsibility in the town, its business, tenements or surroundings. . . . The company does not recognize that labor organizations have any place or necessity in Pullman, where the company fixes wages and rents, and refuses to treat with labor organizations. The laborer can work or quit on the terms offered; that is the limit of his rights. This position secures all the advantage of the concentration of capital, ability, power and control for the company in its labor dealings, and deprives the employers of any such advantage or protection as a labor union might afford. In this respect the Pullman Company is behind the age."⁸⁰

Speaking of this strike in his book, *The Industrial Evolution* (p. 317), Col. Wright says that it aroused a vast deal of bitter feeling—so bitter that neither party would recognize the rights of the other—and as is usually the case, each side employed whatever means seemed advantageous, without regard for the welfare of the public. The strike was a rude lesson, Col. Wright concludes, which should teach society to protect itself. However, it did not teach the Americans to renounce the strike altogether, as the

⁸⁰ *Report on the Chicago Strike*, pp. 22-27.

crisis of 1893-94 gave rise to other very grave strikes, among which were the strike on the Lehigh Valley Railroad in December, 1893, that of the miners, and that on the Great Northern Railroad in April, 1894. The total number of strikes in 1894, of which the results for the first six months only are known to me, probably passed 1700.

Opinions and theories upon the strike in the United States.—In America many economists are disposed to hold that the strike is the most practical means by which the laboring class can enforce their claims. They condemn violence, but this, they hold, is more often due to vagabonds than workmen.

Professor Ely, one of the leaders of a recent school with leanings towards state socialism, expresses himself as follows in a work which has become classic: "Strikes produce harm, and every effort should be made to avoid them. They are, however, successful in more cases than is ordinarily supposed, and when occasionally a decided victory is scored the gain is immense. An agitation of a few weeks and a strike of a few days, together with an act of legislature, established a reduction of the hours of labor from seventeen to twelve for the hundreds of street-car employees in Baltimore. This is probably an advantage permanently secured. Other illustrations might be given, and nothing is gained by shutting our eyes to such facts."¹¹

But employers think otherwise, the American like the European. They like neither combinations, strikes, nor the unions which foster strikes, and they endeavor to free themselves by substituting machinery for labor wherever it is possible. The chief of the bureau of industrial statistics of Pennsylvania in 1893, Mr. Bolles, remarked that many of the inventions of the preceding fifteen years had been due to strikes and other difficulties caused by workmen."¹²

¹¹ *Outlines of Economics*, p. 191.

¹² *Industrial Statistics, Pennsylvania*, 1893, D. 29.

In the Boston *salons*, as well as in those of Paris, regret is expressed for the situation in which manufacturers are placed by the strike and the opinion is often heard that the people have become ungovernable and their minds perverted; that the strike will ruin industry. This is why great manufacturers refuse to employ workmen affiliated with a union. They may be debarred as judges, because they are too interested in maintaining their own supremacy to be impartial; but they must be heard as witnesses because they represent an important current of opinion and have had personal experience in these matters.

Carroll D. Wright thinks that the responsibility for strikes rests as much upon the employers as the employees. Testifying before the Senate Committee on Education and Labor in 1883, he asserted that in general neither side was disinterested enough to discern the truth. "But this much is true, that when the wage receivers are satisfied of the moral integrity of their employers in the conduct of the affairs of the establishment they accept the situation asked of them generously and loyally. . . . The truth may be presented to a man in such a way as to antagonize him; and on the other hand it may be presented to him in such a way as to win his support. There is a great deal of human nature on both sides of the question. The fault I find with managers of establishments where strikes have occurred is that they consider human nature to be about all on one side, and not to be recognized as existing on both."⁸⁸

There is much truth in these remarks, but we must beware of generalities; in this as in many other matters, the absolute, which takes no notice of the complexity of human affairs, is sure to lose itself in some utopia. There undoubtedly are employers who have the art of conciliating their personnel; illustrations might be supplied from the investigation just mentioned. But is there a single

⁸⁸ *Labor and Capital*, iii, 420.

employer who can be sure that he is completely beyond the danger of strikes?

A few words upon the relation between wages and profits.—The fundamental theory of Mr. Wright is that wages should be proportional to profits and vary with them;⁴⁴ the idea is seductive, as it seems to realize the ideals of justice, but it is not the true theory of wages. The wage-earner is very different from the entrepreneur: he has not the same chance of gain because he does not run the same risks.

This theory was discussed in the Senate investigation just mentioned. A witness who had been engaged in the woolen industry for twenty years admitted that one of the most frequent causes of strikes was the opinion of workmen that their wages were not proportioned to the value produced by their labor. But they are often deceived, he added; a mill may be very actively employed and yet not be making money. American workmen, he thought, were not so well informed upon the profits of manufacturing as the English workmen, whose trades-unions were much more advanced. Col. Wright's estimate that the manufacturers of Massachusetts had made 10 per cent profit in the previous year, after making every allowance for preserving and maintaining the plant and paying all expenses of production, including six per cent interest on capital, the witness thought excessive; no such calculation, he stated, could be safely made; in any event, the workman had had a generous share in the progress made since 1862.⁴⁵

The level of wages may be closely connected with the general productivity of industry, but it is not a function of productivity, especially when productivity is measured by the gain of some one establishment, or the temporary

⁴⁴ Mr. Wright expressed this thought in his first report as Commissioner of Labor (*Industrial Depressions*, p. 293): "Public opinion can . . . demand that after capital and labor shall have received fixed and reasonable compensation, each for its investment, the net profits of production shall be divided under profit-sharing plans or methods, or through industrial copartnership. . . ."

⁴⁵ *Labor and Capital*, iii, p. 438 *et seq.*

profits in some particular industry. Wages are relatively stable compared with profits, which are speculative in nature; the former precede or accompany production, while the latter follow the sale or, more correctly, the payment, and at the moment of production both sale and payment are uncertain. Out of a thousand manufacturers who, at the same time and in the same country, make and sell practically the same articles, there are from twenty to forty perhaps who make fortunes, hundreds who just hold their own, and a large number who completely fail; yet all of them pay the same wages. Shall those who fail demand that their employees work for nothing? Since we cannot admit this proposition, why admit that the employees of those who prosper have a right to a part of the ultimate profits? The employees of both classes have sold their labor at the market price, and this was practically the same in all establishments; the probable regulation of their labor by machinery only secured its more equal and conscientious application.

Whence arise the differences of result? Evidently in the skill or fortune of the entrepreneur. To whom, then, does the profit legitimately belong? The profit is ordinarily uncertain and indeterminate until after a purchaser has been found and payment received. But the workman receives his part in advance, the amount being determined when the wage-contract was made, and that was the time when he should have exploited his personal value. He is justified in employing organization, as Col. Wright advises him to do, in order to maintain his own interests and secure a higher valuation upon his industrial worth. But when he has accepted the contract he has no right of action until the contract expires, just as the employer has no right of recovery upon the wages of his workmen when his operations result in a loss. This does not imply in the least that the benevolent and far-sighted employer, in times of prosperity, will not make it advantageous to his employees to interest themselves in the continued prosperity of his estab-

lishment. But the present section is devoted to the rights of the wage-earner, not to the liberality of the far-sighted entrepreneur.⁶⁶

The strike is one of the means employed by workmen to secure a favorable wage-contract. We may attempt to persuade them to use it with great caution, not to be led away by sudden impulses, to examine carefully whether they are not misinformed by interested leaders, and we may show them the cost of defeat or even of victory. But in the existing state of institutions and customs, they cannot be denied the right of employing it, just as in the political sphere, nations cannot be denied the right of waging war.

The regulation of strikes upon railways and the anti-trust act.—Strikes upon railroads have seemed graver to Americans than strikes in other industries, because they interrupt transportation and thus disarrange the whole economic movement of the country. This feeling has prompted several states to pass special statutes upon such strikes. Thus, the explanatory preamble of the law passed in Delaware upon this subject in 1877 reads: "Whereas, strikes by locomotive engineers and other railroad employees, and the abandonment by them of their engines and trains at points other than their schedule destination, whereby the safety of the passenger is often jeopardized, and shippers of fruits and other freights are subjected to great inconvenience, delay and possible loss, have lately become so frequent and extensive as to render it imperative that the rights and interests of the public should be guarded and protected in this respect by some proper legislation. Now, therefore, be it enacted, etc." This law inflicts a fine of from \$100 to \$500 and imprisonment for a term not less than six months upon every engineer or conductor who violates its provisions; upon every employee who in a sympathetic strike or boycott refuses to handle the cars of another company; and upon every person who obstructs

⁶⁶ See *L'Ouvrier Américain*, ch. iv, pt. iii.

a railroad track or injures or destroys the rolling stock, or other property of a railroad company.⁸⁷

Similar laws, with some differences of detail, are found in Illinois, Kansas, Maine, Mississippi, New Jersey, Pennsylvania.⁸⁸

Congress has also legislated upon this subject; being charged with the regulation of interstate commerce, it decided that means should be taken to prevent the interruption by railway strikes of the transportation between the several states of persons, goods and mails. The Interstate Commerce Act, passed in 1887 and amended in 1889, gave federal authorities the power to regulate unreasonable rates, prohibit special advantages to favored individuals, and prevent in general all obstruction of interstate transportation. Strikes of railway employees are thus brought within the jurisdiction of the federal courts. Thus, in the case of the *United States vs. Cassidy et al.*, in the United States Court for the Northern District of California, in 1895, the court said: "A strike, or a preconcerted quitting of work, by a combination of railroad employees, is, in itself, unlawful, if the concerted action is knowingly and willfully directed by the parties to it for the purpose of obstructing and retarding the passage of the mails, or in restraint of trade and commerce among the states."⁸⁹

The Anti-trust Act of 1890 has greatly augmented the power of the courts in this matter. It provides that every contract, combination in the form of trust or otherwise, or conspiracy in restraint of trade or commerce among the several states, is illegal and punishable as a misdemeanor. This law, which was primarily aimed at combinations of producers, has been extended so as to cover combinations

⁸⁷ *Laws of Delaware*, vol. 15, ch. 481.

⁸⁸ Mississippi must now be added to this list. References to the latest statutes upon this subject may be found in the *Report of the Industrial Commission on Labor Legislation*, pp. 132-134. See also the *Second Special Report of the Commissioner of Labor of the United States*, title "Strikes of Railroad Employees." [Tr.]

⁸⁹ *Labor Laws*, second edition, p. 1346. See also pp. 1348, 1353.

of railroad employees.⁸⁰ It was under this law that Mr. Debs, the leader of the railway employees in the Chicago strike, was summoned before the court.

The laborers have never acquiesced in this legislation; they fail to understand why, if they have a right to strike, the right does not exist in all relations between employees and employers. The argument is not without force, but it should be completed by the statement that responsibility, like the strike, is a logical consequence of the freedom of labor; in consequence, when strikers who have contracted to work for a given time jeopardize the lives of travelers or damage the property of third parties by deserting their posts, they should be compelled to make pecuniary restitution. As it is ordinarily impossible to obtain damages from workmen, it has been thought necessary, in the general interest, to protect such an important social service by preventive measures and by corporal penalties directed against those who obstruct it.

The variation of American legislation upon combination.—The American laws upon combination are not uniform, and they have been modified by time; the attitude of the courts in the last seventy-five years has changed more than the laws. But public opinion in the United States seems never to have been strongly pronounced against strikes,⁸¹ as the testimony of Michel Chevalier proves. And yet, scarcely fifty years have passed since judges in the United States, as in England, classed strikes in the category of conspiracies and punished strikers as conspirators.⁸²

⁸⁰ See *Labor Laws*, second edition, pp. 1348, 1353.

⁸¹ Mr. Bolles, in his *Chapters in Political Economy*, published at New York in 1874, said: "So far as the National and State Governments are concerned, workmen have no just cause of complaint. They have always been placed upon the same footing as the capitalist, and have enjoyed the unquestioned right to form trade-union societies."

⁸² An English law of 1799 declared "contracts entered into for obtaining an advance of wages, for altering the usual time for working . . . illegal, null and void." The laws against combination began to be repealed about 1825.

In 1806, in an action brought against a number of journeymen shoemakers in Philadelphia, the recorder said: "A combination of workmen to raise wages may be considered in a twofold point of view: one is to benefit themselves, the other is to injure those who do not join their society. The rule of law condemns both."⁸³ The jury returned a verdict of guilty. In another case at Pittsburgh, in 1815, the presiding judge instructed the jury that it was lawful for an individual to fix what price he pleased on his labor, but that to extort this price by combination was a criminal conspiracy; the jury convicted the prisoners.

In 1823 the master hatters of New York formed an agreement to employ no workman who had left his last position on account of wages. The workmen responded by organizing a society whose members were pledged not to work in any factory employing workmen at rates inferior to those of a wage-scale adopted by the society. This was carried out, but those who struck were arrested on the charge of having caused the discharge of another workman, and were declared by the jury guilty of conspiracy.⁸⁴

Says an American author in a recent work upon strikes and lockouts: "The history of labor from the earliest time shows that workmen had practically no rights at all. . . . Therefore it is not astonishing in the light of this history that the common law made a mere conspiracy criminal."⁸⁵ But mere combination has now become entirely legal, even in states which have no special law upon the subject. Thus, in Pennsylvania: "It shall be lawful for any laborer or laborers, workingman or workingmen, journeyman or journeymen, acting either as individuals or as members of any club, society or association, to refuse to work or labor for any person or persons, whenever, in his, her or their opinion, the wages paid are insufficient, or the treatment of

⁸³ Cogley on *Strikes and Lockouts*, p. 47.

⁸⁴ *First Biennial Report, Colorado*, p. 45.

⁸⁵ *The Law of Strikes, Lockouts and Labor Organizations*, by Thomas S. Cogley, Washington, 1894, p. 98.

such laborer or laborers, workingman or workingmen, journeyman or journeymen, by his, her or their employer is brutal or offensive, or the continued labor by such laborer or laborers, workingman or workingmen, journeyman or journeymen, would be contrary to the rules, regulations or by-laws of any [lawful] club, society or organization to which he, she, or they might belong, without subjecting any person or persons so refusing to work or labor to prosecution or indictment for conspiracy, under the criminal laws of this commonwealth."⁶⁶

The state of New York passed a law as early as 1870 in which workmen were expressly permitted to assemble peaceably with the object of obtaining higher wages; and in 1883, in a revision of the penal code, peaceable combination was legalized, although penalties were prescribed for violence, actual or threatened. Almost exactly the same law was adopted by Minnesota in 1886, and at short intervals afterwards by New Jersey, West Virginia, Maryland and Colorado. A large number of states, such as Connecticut, Michigan and Wisconsin, confine themselves to penalizing violence, threats and intimidations, without expressly legalizing combinations of workmen; while in some states boycotting and blacklisting are specially designated as illegal. North Dakota confers upon the commissioner of labor the power of acting as arbiter when called upon in labor disputes.⁶⁷

All these laws are of recent date; they have resulted from the labor movement which has taken place in the last twenty years. They have not yet secured a place in the code of every state, but it would be wholly wrong to infer, as do some of the publicists of the labor party, that combination is illegal where it is not expressly authorized by law.⁶⁸ Arrests may be made in connection with strikes

⁶⁶ *Brightly's Purdon's Digest*, 12th Edition, p. 2017.

⁶⁷ See the *Special Report of the Commissioner of Labor* entitled *Labor Laws*, second edition.

⁶⁸ See a reflection of this opinion in the *Rapports de la délégation ouvrière à l'Exposition de Chicago*, p. 380. Mr. Stimson in his *Handbook to the Labor Law of the United States* says of strikes, p. 194:

which may or may not be justified; the court decides. But the mere fact of association, permanent or temporary, or of combination to obtain an end, is so regarded by the American mind that there is no need to-day of a written law to legalize strikes. "Twenty years ago," said J. W. Sullivan, a delegate from the American Federation of Labor to the Trades Union Congress, held in England, in 1896, "the courts punished conspiracy by virtue of laws which have to-day lost most of their force, except in a small number of states. In general, our combinations have ceased to be illegal; strikers in ordinary cases are no longer conspirators."

As in all questions of fact, there are still doubtful points¹⁰ upon which the law is uncertain. But the right to combine is no longer in doubt. In this, as in many other matters, American courts and legislatures have followed English precedent. "It is just as evident," says Mr. Bolles, "that laborers have a right to combine in order to get their dues, as capitalists have to combine for the purpose of resisting an advance of wages."¹¹ But in the exercise of this right workmen must be careful not to violate a superior right—that of individual liberty. In protecting the latter, many states have passed special laws against preventing persons by force or threats from continuing to work for another person.¹²

"There is no subject connected with labor law about which there has been so much disagreement among judges and jurists, and about which there is still so much doubt. A recent text-book upon strikes and boycotts goes so far as to say that there can be no such thing as a legal strike. The truth is probably the exact opposite. Instead of saying no strikes are legal, we should now say all strikes are legal. . . ."

¹⁰ Mr. Stimson treats several in his *Handbook*. Thus, it is undecided whether workmen who break a contract with their employer to go on a strike are liable in damages (Mr. Stimson thinks they are), and whether a sympathetic strike is illegal or not, combination of this kind not having for its object a direct advantage to those who combine.

¹¹ *Chapters in Political Economy*, by A. S. Bolles, p. 30.

¹² See Stimson's *Handbook*, p. 24, and the *Report of the Industrial Commission on Labor Legislation*, pp. 130-132.

Mr. Cogley, after having described the legislation of the principal states upon this subject, concludes by saying: "It may, therefore, be laid down as a general rule in the United States, that employees have the right, either singly or in bodies, to quit their employment, provided they do so peaceably, and, in doing so, do not violate their contracts with their employers. But that if in quitting their employment, they either singly or in combination resort to violence to the person or property of either employer or co-employees or persons seeking employment, or by threats, intimidation in any form, molestation, obstruction, or interference, to compel an employer to increase their wages, to alter his mode of carrying on his business, to discharge employees, to employ those he does not wish to employ, or to compel, against their will, employees to quit their employment, or to prevent those seeking work from accepting employment, to join a club or association they do not wish to join, then their acts are illegal, and they become liable criminally. Violence and intimidation are abhorrent to the law, and the moment they taint the acts and purposes of employees, that moment their acts and purposes become unlawful."⁷⁸

Carroll D. Wright expresses his opinion in these words: "Peaceable organization for peaceable and lawful purposes is no longer conspiracy."⁷⁹ Yet there is one exception to this, as we have seen above, that of railway employees.

The persistence of the strike.—Like war, the strike is an evil. Dreamers like Bellamy may imagine a society in which a perpetual and fraternal harmony prevails, where men are content with their lot and the strike forever abandoned. But in real society, with its selfish interests and human passions, the strike, it may be asserted, will not disappear. For a certain time, at least, there is more likelihood of an increase than of a decrease in strikes.

Combination, that is to say, the collective action of work-

⁷⁸ Cogley, *op. cit.*, p. 264.

⁷⁹ *The Industrial Evolution*, p. 286.

men, with the object of obtaining the most suitable conditions upon which to dispose of their labor, is a right, and the strike, that is to say the concerted refusal to work, is a consequence of this right.

The laboring classes have become a power, particularly in democratic governments like the United States. It would be well-nigh impossible to deny them a right; it is enough if they are prevented from encroaching upon the rest of society. They are strongly organized in associations of which but few existed in former times, and the number and power of these associations will probably continue to increase. Experience has taught them that although the strike is sometimes costly it occasionally succeeds, and like all who play at games of chance, they firmly believe when the game is on that luck is with them. Official statistics show that about forty-five strikes out of every hundred succeed in America, and from twenty to twenty-five in France, but the labor leaders hold out much more encouraging results than this. Mr. Gompers, for example, in his report to the general assembly of the Federation of Labor in 1890, announced that 1163 strikes had been authorized by the Federation, of which 989 had succeeded, 98 resulted in a compromise, and only 76 failed.⁷⁴

The laboring classes are in general better off than they have ever been, and they are particularly well paid in the United States. It is undeniable that strikes are carried on, in general, not by the weaker classes, but by the higher classes of workmen, and it is not hopeless misery, as General Walker asserted,⁷⁵ but increasing ambition that causes them.

Some of the leaders who incite and guide the laboring classes sincerely believe that the latter are victims of a cruel and unequal contract from which they should emancipate themselves by vigorous action, while others merely seek support for their own ambitions. Neither species of leader will be absent in the future.

⁷⁴ *Report of the Proceedings*, p. 14.

⁷⁵ *Publications of the American Economic Association*, vol. iii, p. 14.

Boycotts and blacklisting, justly prohibited in some states, and the sympathetic strike, which is a perverted form of the strike as it is not a combination of persons to defend in common their particular interests, are in reality extensions of the principle of combination which workmen will not easily renounce because of their extreme effectiveness, just as states have never ceased to contract offensive and defensive alliances. But they are evidently excesses that infringe the liberty of some to satisfy the passions of others; blacklisting, particularly, which crushes the victim while it costs the persecutor nothing, seems to me especially reprehensible. It is well that law and custom repress these abuses, but when there is no superior power which can decide in the name of justice and enforce its decision, the only resort is force, and to acquire power each party gathers all the resources it can command either of itself or from its friends. The law in America permits free speech, and custom would not now allow any authority to shackle it.

Distinguished economists have tried to show that the state of wealth of a country being given, the strike can give nothing to one class of laborers that it does not take from other classes. But it is impossible to prove scientifically that wages figure in the cost of production or that the increment to wages must come from the general fund of wages rather than the fund of profits. And in spite of their talk about solidarity, the labor-unions pursue their own ends in America without disturbing themselves about what will be left of the wage-fund for others—assuming that there is a definite fund of this sort; they are satisfied for the time, they say, when they have obtained the specific concession they demanded.

Statistics of strikes in France and England.—In the new world, as in the old, the strike has become one of the conditions of modern industry, in the same way that disease is a condition of human life. I shall not compare it to the tunic of Nessus, because I do not believe that industry will perish

from the suffering it inflicts upon capital; but it is a destructive pest which must be continually fought, one whose activity seems the more intense as the democracy of the country is more powerful⁷⁶ and the development of great industries the more advanced.

In France, the number of strikes of which the administration has knowledge⁷⁷ has greatly increased. In twelve years the average annual number increased from 131 to 368, while in 1893 there were 634 with 170,000 strikers; in 1894, however, there were only 391 strikes and 54,576 strikers.⁷⁸ In the latter year, 21 per cent succeeded, 33 were compromised, and the rest failed.⁷⁹

In the United Kingdom more than 500 strikes have been recorded by the Board of Trade in every year since 1888, the great majority being in the building trades, mines and quarrying, and the metallurgical and textile industries; in 1889 the number rose to 1211, involving 360,000 persons.⁸⁰

⁷⁶ Here again it is necessary to beware of generalizations: strikes are relatively scarce in Switzerland.

⁷⁷ The average estimate of 18 strikes a year, from 1856 to 1870 (see *Annuaire Statistique de la France*, 1892-1894, p. 416), is insufficient, as from 1853 to 1862 the *ministère public* prosecuted 749 combinations of workmen and 89 combinations of employers. See *Histoire des Classes Ouvrières en France*, by E. Levasseur, ii, 333.

⁷⁸ More than fifty per cent were carried on by groups of more than 100 workmen. The mean duration may be estimated at fifteen days; in 1894 six lasted more than 100 days. See the publication of the *Office du Travail: Statistique des Grèves*, and the *Etude sur les Coalitions et les Grèves*, by M. Crouzel.

⁷⁹ In 1898 there were 368 strikes, of which 20.4 succeeded; 46.2 failed, and 33.4 were compromised. 82,065 strikers were involved and the time lost amounted to 1,216,306 days, or about 15 days for each workman involved (5900 workmen being thrown out who were not strikers). 242 out of the 368 strikes lasted not more than one week. *Statistique des Grèves* for 1898, pp. 7-9. [Tr.]

⁸⁰ Out of 721 strikes in 1899 (preliminary results), 177 were in the building trades; 110 in mining and quarrying; 145 in the metal, engineering and shipbuilding trades; and 121 in the textile trades. In English official statistics no labor dispute is counted which involved less than ten work-people, or which lasted less than one day, except when the aggregate duration exceeded 100 working days. See *Sixth Annual Abstract of Labor Statistics of the United Kingdom*, p. 58 et seq. [Tr.]

Although in 1893 there were only 782 (strikes and lock-outs), 636,000 persons were involved owing to the strike of the coal miners, in which 500,000 persons participated.⁸¹ Since 1888, in more than one-third of the cases (from 31 to 48 per cent), the result has been favorable to the workmen, while in about twenty-five per cent a compromise has been effected.⁸² In 1893 it was officially estimated that the loss in wages—so far as this could be estimated for 215,000 strikers—was 1,849,000 pounds sterling, to which should be added the expenditures of the trades-unions in supporting the strikes. Mr. Giffen observed that although this amount was very large, it represented scarcely one per cent of the total annual wages, and while the strikers often have to submit to a reduction of wages after the strike, they frequently obtain an increase. Mr. Burnett has estimated the reductions in 1893 at 320 pounds a week and the advances at 8182 pounds.⁸³

There have been strikes in England in which people were wounded and killed, but the trades-unions have been educated beyond violence or at least have rendered it much less common. The English strike of to-day is ordinarily peaceable, as is shown by the strike of the cotton operators in 1892-93, which threw 120,000 people out of work for four months, but aroused no disorder and was terminated by an amicable agreement. The old trades-unions have become convinced that the multiplication of strikes is prejudicial to the prosperity of England; in the separate congress which they held at Newcastle in 1895 in opposition to the general congress of that year, it was resolved as the opinion

⁸¹ Out of the 115,397 work people affected in 1899, more than one-half lived in Scotland (60,165) and Wales and Monmouthshire (36,552). *Ibid.*, p. 61.

⁸² The proportion of compromises has varied from 17 to 34 per cent; that of failures from 17.3 to 35.5 per cent; that of indefinite or unsettled cases from 7.9 to 18.4 per cent. *Ibid.*, p. 60. and *Report on the Work of the Labor Department of the Board of Trade, 1893-94.*

⁸³ See *Fifth Report of the Royal Commission of Labor*, p. 39, and *Report by the Chief Labor Correspondent on the Strikes and Lockouts of 1893*, p. 58.

of the congress that the time had come when a national agreement should be established between employers and employees, of such a nature as to prevent the decay of British industry which, in consequence of strikes, it was stated, was passing into the hands of foreign competitors.

The question of remedies.—There can be no doubt that the destructive upheavals produced by strikes entail a great waste of the national wealth. But, surely, something more can be done than to stand by in open-mouthed helplessness and prophesy the increasing number and seriousness of these economic drains. I do not wish to foster the vain hope that the evil may be abolished by law. But I cannot endorse a policy of indifference. I shall speak in another chapter of preventatives such as profit-sharing and of regulators such as the labor-union. As for the strike itself, I believe that the Americans are on the right road when they endeavor to oppose it with conciliation and arbitration, applied either after the strike is declared or when it is on the point of being declared. Whatever difficulties may be met in the practical application of arbitration, it will probably constitute one of the partial remedies of the future.*

Meanwhile, all the American laws, as well as those of Europe, condemn threats, violence and intimidation; it is rightly so, since they could not be tolerated without denying the principle of liberty which constitutes the very essence of combination. But it is difficult to distinguish threats from persuasion, violence from collective authority, and in America, as in France and England, the attitude of the courts is a wavering one. Yet it is necessary, in the interest of industrial peace, as in that of the laborers who wish to work, that no man be morally coerced to engage or persist in a strike against his will. It is the courts rather than the legislatures which must maintain the balance between the right of association and that of individual liberty.

* A more detailed treatment of this question may be found in the original work, ch. vii, pt. iii. [Tr.]

To this the workmen oppose the argument, which is not without weight, that a few employers can get together in an office or private room and plan a lockout or concerted resistance, while the strikers are compelled to control thousands of men and to conduct their campaign in public, often in the streets. But the difficulty of their task offers no excuse for the tyranny strikers often exercise upon those who do not wish to join or remain in the strike.

Every strike entails money losses: the support of unemployed workmen and often the destruction of property; cessation of wages for the workmen, stoppage of production for the entrepreneurs. When a strike is conducted legitimately, each participant should bear his own loss; but when illegal means are employed the offender should be liable in civil damages in addition to being prosecuted criminally; thus, the workmen might have a right of action against their leaders or their employers, or on the other hand, the employers might be able to get damages from every union or individual striker who aids or abets violence. Liberty of action implies responsibility for acts. A great step in the direction of industrial peace will have been taken the day when public opinion becomes convinced by experience that the courts must not hesitate to apply the principle of responsibility in all cases.

This day may possibly be at hand, but the time seems much further off when workmen and employers, educated by their own and the accumulated experience of time, will take greater account of the economic wrong involved in the violent interruption of production by strikes, boycotts and lockouts; when they will understand that their highest interest after all lies rather in submitting their differences to peaceable arbitration than in attempting to crush their adversaries in a conflict which impoverishes all. Then, perhaps, the compulsory arbitration which I cannot now endorse²⁵ may become effective, because superfluous.

²⁵ See the chapter on arbitration in the third part of *L'Ouvrier Américain*.

But till then we must confine ourselves to voluntary arbitration, which educates the mind, slowly, it must be admitted, but without furnishing the demoralizing spectacle of impotent law and of abuses committed in its name. Then, perhaps, the labor-unions, more numerous and better organized, will have acquired maturer ideas, the employers will have exchanged their masterful tone for one of explanation, and when a difference arises will be more willing to discuss their affairs with their employees than was Mr. Pullman.

But that time has not arrived; neither in the United States, nor in France, nor even in England, in spite of the many examples of the sound common sense of the English people in this regard.

CHAPTER VI

WAGES OF MEN



The general increase of wages.—That the general level of nominal wages—the average sum gained by the laborer for an hour's work—has increased in the last seventy-five years, is beyond reasonable doubt. In America as in most European states, the fact is so patent that to dispute it, one must be blind with prejudice or completely engrossed with a few abnormal details of the general movement of labor. One of the economists who has studied the subject most carefully expresses himself as follows in regard to the movement of wages in America: "In 1830, when the first statistics in my possession are dated, the average earnings of all the operatives in a large cotton-mill, who then worked thirteen hours or more a day, and among whom were comprised a much larger proportion of men than at the present time, while the women were older and there were fewer children, were \$2.50 to \$2.62 per week.¹ The quantity of machinery which each hand could tend was much less; the production of each spindle and loom was less; the cost in money of the mills per spindle or loom much greater, while the price of

¹ Prof. James in *The Labor Movement*, p. 70, has cited an earlier example, a maximum wage-list established by the selectmen of Newburyport in 1777:

Carpenters.....	5 shillings	4 pence	per day.
Calkers.....	6	"	" "
Day laborers, not found.....	4	"	" "
Day laborers, found.....	3	"	" "
Joiners.....	4	"	8 " " "
Masons.....	6	"	" "

These were maxima and undoubtedly higher than the rates actually paid.

cloth was at times more than double the price at which it can now be sold with a reasonable profit. The average earnings of all the female operatives in what purports to be the same factory, at the present time, on the same fabric, working ten or eleven hours a day, under vastly better sanitary conditions, both in the factory and in their dwelling-houses, are \$5 per week, and in some cases even \$6—or more to the most skillful. That is to say, women only now earn about twice as much in ten hours as men and women combined averaged in thirteen hours a little over forty years ago.”²

The same author, basing his calculations upon the pay-rolls of two New England factories, estimates that the average annual wage was \$175 in 1840 and \$287 in 1883. He also gives figures from other industries: in one piano-factory, \$562 per year in 1843, and \$824 in 1880; in another piano-factory, \$11.33 per week in 1853 and \$17.50 in 1880; in an edge-tool manufactory, \$1.60 per day in 1850, \$2.26 in 1880.³ I have cited here merely a few illustrations. All the documents that I have myself consulted confirm the opinion of Mr. Atkinson.

² Ed. Atkinson, *The Distribution of Products*, fifth edition, p. 64.

In his special census report entitled “The Factory System of the United States,” Col. Wright gives several sets of wage-statistics including the figures of Mr. Atkinson. I subjoin a few quotations.

	WAGES PER WEEK.					
	1840. Dollars.	1850. Dollars.	1860. Dollars.	1870 ¹ . Dollars.	1875 ¹ . Dollars.	1880. Dollars.
Laborer (New Hampshire)	3.00	4.50	5.00	7.00	6.50	6.00
Weaver (New Hampshire)	5.00	5.75	6.00	7.00	6.33	6.75
Weaver (Massachusetts)...	4.20	6.00	5.68	10.00	9.78	8.07
Laborer (Indiana).....	...	6.00	5.40	7.70	6.75	6.00
Laborer (North Carolina)...	2.25	3.00	4.50	3.00	3.90	3.00

¹ Amounts expressed in gold, except in 1870 and 1875.

Col. Wright corroborates these results by adding statistics which he had prepared while Commissioner of Labor of Massachusetts. According to these figures wages in the cotton manufacture had increased 19 per cent between 1860 and 1878, and 9.1 per cent between 1878 and 1881. *Report on the Manufactures of the United States at the Tenth Census*, pp. 527-610.

³ *The Distribution of Products*, pp. 118, 126 et passim.

We may first examine agricultural statistics. They show a marked increase in wages during the interval 1815-1860; an inflation during the paper-money régime, followed by a fall; and finally, a recovery which again raised the general level—different in different sections of the country—as high as it had been forced by the depreciation of the currency.⁴ As I pointed out in *L'Agriculture aux Etats-Unis*,⁵ the farm laborer received \$9 a month and his board fifty years ago; in 1892 he received \$12.54 and board. If at present the wages of farm-laborers are stationary or perhaps declining, it must be attributed to the low prices of agricultural produce.⁶

In the second place we may obtain a general notion of the upward movement by observing the number of persons employed in manufactures in the several census years, in connection with the total wages paid to them. These statistics are given in the following table, accompanied by a representation of the wage-level at four epochs, quoted from

⁴ In Connecticut the farm-laborer received (board not included) from \$18 to \$20 a month during the period 1850-1855; 1860-1865, from \$22 to \$35 (paper) a month; 1870-1875, from \$35 to \$40; 1885-1890, \$35 to \$40. In Washington county, New York, the pay (with board) was \$.55 a day, 1840-1850; \$1.37 (paper), 1860-1870; \$1, 1880-1890. In Massachusetts the pay (with board) was \$8 a month in 1815, \$11 in 1825, \$11 in 1835, \$14.37 in 1845, \$14.67 in 1855, \$32 (paper) in 1865, \$31.87 (paper) in 1875, \$28.75 in 1885, \$29.70 in 1892. See *Fourth Triennial Report of the Bureau of Labor Statistics of the State of Colorado*, 1893-94, pp. 66, 83 *et seq.* This volume contains other statistics which confirm those quoted. Thus a farmer of Butler county, Ohio, paid (with board) from \$6 to \$8 a month in 1836, from \$10 to \$12 in 1845, from \$12 to \$14 in 1855, \$13.25 in 1865, and from \$15 to \$17 in 1875. Since that time the rate has varied from \$15 to \$18; in 1892 it was from \$15 to \$17.

⁵ *L'Agriculture aux États-Unis*, p. 61. Since the publication of that volume Mr. Powers has shown in one of his reports that in the Mississippi valley agricultural wages have increased from 60 to 75 per cent in the last 35 years; a greater increase, Mr. Powers thinks, than in the Eastern States. See *Fifth Biennial Report* . . . Minnesota, p. 508.

⁶ In France agricultural wages apparently decreased a little between 1882 and 1895. [For agricultural wages in the United States since 1895, see note 36, p. 296.]

Col. Wright. The wages are from 100 establishments in 22 different industries, the average rate of 1860, represented by 100, being taken as the standard of comparison.¹

Year.	Average number of employees.	Total wages (millions of dollars).	Average annual wages per employee (dollars).	Index-number of wages (from C. D. Wright).
1840.....	.....	.....	.....	82.5
1850.....	958,079	237	247	.....
1860.....	1,131,246	379	335	100.0
1866.....	.....	.....	.....	155.6
1870.....	2,053,996	776	375	.....
1880.....	2,732,595	948	346	.....
1890.....	4,712,622	2,283	484	168.6

This comparison which includes men, women and children, all kinds of employees from superintendents down to day-laborers, is too general to be exact. Statisticians have criticised it; they have pointed out that the inquiry about wages, like the inquiry about the cost of materials, has changed from one census to another; that in 1880, for example, the enumeration of agricultural laborers, who as a general rule receive smaller wages than other employees, was more complete than in 1890; that on the contrary the employees engaged in manufacturing establishments were much more thoroughly canvassed in 1890 than in 1880; that if the wages of government employees were eliminated, the average for 1890 would be less than \$484; and finally, that the total amount of wages paid during the year divided by the average number of hands employed during that year does not necessarily give the average annual wages per employee. "Therefore," writes the superintendent, "the average annual wages per employ   as obtained from the reports for the two censuses are not comparable, nor should the amounts be used to ascertain the percentage of increase."² Those publicists of the labor-party who pretend that the condition of the wage-earner goes on growing worse and worse, also challenge the truth of these figures.

However the comparison is not wholly destitute of significance. An impartial examination leads one to conclude that there has been an increase in nominal wages—an in-

¹ See *The Industrial Evolution*, p. 223.

² *Abstract of the Eleventh Census*, second edition, p. 139.

crease which between the years 1850 and 1890 is very close to 100 per cent—; that this growth, in all probability, has been by gradual stages; and that if this last conclusion be not confirmed for the year 1870, it is because at that epoch prices were inflated by the depreciation of the currency.

The analysis by groups of the employees who averaged \$484 in 1890, shows that male officers, firm members, and clerks received on an average \$890, the females of the same group, \$462 a year; that among time-workers the men averaged \$498, the women \$276, and the children, \$141 a year; while among piece-workers, male operatives averaged \$500, female operatives \$255, and children \$117 a year.* The figures show that the highest wages are paid to officers and clerks; that among piece-workers the male operative—usually a good workman who does his work at the shop of his employer—makes more than the workman paid by the day, while among workingwomen the conditions are reversed—women often doing piece-work at home in connection with other work; that the respective earnings of children, women and men are related nearly as 1:2:3 or 4. These are results so intrinsically probable that they establish the general validity, for our purposes, of the statistics we have been considering.

And yet these figures do not represent the real average income in the several groups. American statisticians have called attention to the fact that the real mean is higher than the one given because certain trades such as bricklaying, lumbering, etc., are exercised during only a part of the year: the wages furnished by employers to the census enumerators in such cases do not include the earnings made by the workman in other occupations during the time that he can-

* The group of officers, firm members and clerks contained 418,081 men and 42,928 women; the time-workers, skilled and unskilled, 2,881,795 men, 505,712 women, and 104,522 children; the piece-workers, 445,247 men, 297,974 women, and 16,363 children, on an average. The word "men" as used here denotes males above 16 years of age, the word "women," females above 15 years. *Report on Manufacturing Industries Eleventh Census*, Part I, p. 20.

not work at his regular trade. Other writers endeavor to prove that the real mean is less than the figures given because the average number of persons employed is less than the maximum number employed at certain seasons of the year.

The census estimate of the average annual wage in 1880 was \$346, which Mr. Atkinson thinks should be increased to \$415 because of the fact that establishments created during the year did not furnish a true estimate of the whole year's wages. He attempted to obtain exact results by calculating the mean for several occupations according to the census of 1880; I have treated the returns of the eleventh census in a similar way, and in every instance have found an increase.¹⁰

In the third place the progress of wages may be shown by illustrations from special industries. A comparison, for instance, of wages at Manchester, New Hampshire, in 1850 and 1883 shows an increase of something more than 50 per cent.¹¹ At New York, painters who had received from \$1.50

¹⁰ The *Distribution of Products*, p. 109. In the 125 occupations in which I was able to make a comparison, there was not a single one in which the per capita earnings were less in 1890 than in 1880, from those in the manufacture of liquors (\$468 in 1880 and \$815 in 1890) and marble and stone work (\$477 and \$723), to those in the manufacture of woolen goods (\$300 and \$358) and hosiery and knit goods (\$232 and \$298).

¹¹ See the following list of wages paid in the "cotton and wool mills" of Manchester, N. H., in 1850 and 1883. As the occupations have changed somewhat during the interval, the comparison is not exact.

MEN.—1850.		1883.	
Overseers	\$2.42	Overseers	\$3.40
Wool sorters	1.25	Wool sorters	1.90
Pickermen	0.90	Harness pickers	0.95
Carders	1.00	Cotton carding	1.55-0.65
Shearer	0.92		
Machinist	1.19	Machinists	1.89
Carpenters	1.19	Carpenters	1.89
WOMEN.			
Laborers	\$1.00	Spinning { cotton { males ..	1.15
Spinners	0.32	{ females ..	0.84
Spoolers	0.40	{ wool { males ..	1.80
Warpers	0.40	{ females ..	0.86
Weavers	0.44	Warpers	0.95
		Weaving	1.79-0.77

Labor and Capital, iii, 238.

to \$2.00 for a day's work of ten hours in 1860, received from \$3.50 to \$4.00 for eight hours' work in 1893; during the paper-money régime their wages had risen as high as \$4.00, but afterwards had fallen to \$2.50.¹² Fluctuations of this kind are noticed in several occupations. In this and other cities of New York wages seem to have increased generally,

WAGES OF COMPOSITORS AT NEW YORK.

[From *Twelfth Annual Report*, *New York*, p. 92.]

	Wages before organization in 1882.	Wages in 1894.
Compositors, afternoon newspapers, time-work, per week	\$12	\$24
Same, piece-work, per 1000 ems. . .	25 to 28 cents.	40 cents.
Compositors, morning papers, time- work, per week	\$14	\$27
Same, piece-work, per 1000 ems. . .	32 cents.	50 cents.
Compositors, book and job, time- work, per week	\$9 to \$10	\$18
Same, piece-work, per 1000 ems. . .	.....	37 to 43 cents.
Typesetting machine operators, morning papers, per week . . . . .	.....	\$27

¹² In 1860 \$2.00—\$1.50 for a day of 10 hours.

In 1862 3.00 " " 10 "

In 1864-1870 3.50 " " 8 "

In 1871 4.00 " " 8 "

In 1872 3.50 " " 10 "

In 1874-1878 2.50 " " 10 "

In 1880 3.00 " " 10 "

In 1885 3.50 " " 9 "

In 1893 { ordinary painters . 3.50 " " 8 "

{ fresco painters . . . 4.00 " " 8 "

Report . . . *State of New York*, 1891, p. 149 *et seq.* The data for 1893 was furnished by the assistant commissioner of labor.

On the other hand compare the data for New York city furnished by the Brotherhood of Carpenters and Joiners who say: "It has been a continual struggle to maintain that rate."

In 1867 \$4.00 for a day of 10 hours.

In 1871-1872 3.50 " " 8 "

After the crisis of 1873 . . \$2.00-2.25 " " 8 "

In 1880 3.00 " " 10 "

In 1881 3.25 " " 10 "

In 1885 3.50 " " 10 "

In 1890 3.50 " " 9 "

(8 on Saturday).

In 1893 3.50 " " 9 hours

(8 on Saturday).

The Italian masons received from \$2.50 to \$3 in the period 1880-1889; since 1890 they have received \$3.50. Plasterers in Brooklyn received \$2.50 in 1879; since 1884 they have received \$4.00.

the increase taking the form of a reduction of hours in some cases, in others, appearing as an absolute rise. The workmen attribute the advance to the influence of their organizations.

Col. Wright has furnished statistical proof, in his *Industrial Evolution*, of the increase in the wages of carpenters, shoemakers, spinners and day-laborers. Some of the quotations go back as far as the last century and show that the advancement has been general although not uniform. In the Massachusetts cotton-mills, in 1831, the weekly wages of men ranged from \$4.50 to \$7.00, those of women from \$2.20 to \$2.60, and those of children from \$1.50 to \$2.00. In 1880, in the Massachusetts mills, male operatives averaged \$6.37, female operatives \$9.05, and children \$3.30 a week. In the United States as a whole, in 1890, men received from \$3.21 to \$6.42, women from \$5.17 to \$10.44, children \$2.65 per week. In 1633 master-masons made 33⅓ cents per day; in 1790, \$1.00 a day; in 1891 from \$5 in Colorado to \$2.25 in North Carolina, in the summer season. The statistics of carpenters, shoemakers, day-laborers and spinners, follow:¹⁸

From diverse statistical sources I have calculated that the average annual wages of men, women and children in the woolen industry were \$115 in 1820 (*circa*); \$216 in 1860,

¹⁸ *The Industrial Evolution*, p. 215 et seq.

Carpenters.	Day-laborers.	Shoemakers.	Spinners.
1790.. \$0.60	1790.. \$0.43	1790 } \$0.73 ½	1820 } \$0.44
1800.. 0.70	1800.. 0.62 ½	to }	to }
1810.. 1.09	1800 }	1800 }	1830 }
1820.. 1.13	to } 0.82	1820 }	1830 }
1840.. 1.40 ?	1810 }	to } 1.06	to }
1850.. 1.40 ?	1810 }	1830 }	1840 }
1850 }	to } 0.90	1860.. 1.70	1840 }
to }	1820 }	1880.. 1.16	to }
1860 }	1840 } 0.82 ½		1850 }
1880.. 2.42	to }		1850 }
	1860 } 1.00		to }
			1860 }
			1880.. 1.40

\$333 in 1870 (paper), \$294 in 1880 and \$350 in 1890.¹⁴ Mr. North cites one Massachusetts factory which in 1820 gave employment to 46 men, 23 women and 23 children who were paid on the average \$115 *per annum*—wages as low, says the author, as were paid in England at that time. Towards 1830 the weekly pay of weavers who operated one or two looms was from \$2.50 to \$3, that of children, from \$1 to \$2: laborers made 80 cents a day and machinists \$1.50. The rapid development of the woolen industry during and after the war, increased these rates. Basing the calculations upon census statistics I find, as stated above, that average wages in the woolen industry were \$216 in 1860, \$333 (currency) in 1870; \$294 in 1880, \$350 in 1890.

Mr. Steinway, who between 1850 and 1883 rose from the position of an ordinary German piano-maker to that of one of the greatest manufacturers of pianos in America, stated before the Senate Committee on Education and Labor in 1883, that when he came to America the piano-makers saved very little: since that time, he continued, wages have doubled and many of them have accounts at the savings-banks. He added that most of the dangerous and painful work was now done by machinery and that, as he had a factory in Hamburg, he could assert with some authority, that piano-makers in New York, Philadelphia, Boston and Baltimore made three times as much as they did in Germany.¹⁵

But it would be superfluous to multiply illustrations; there can be no doubt that wages have increased in the last forty years. There are exceptions, wages have declined in certain departments of the iron, silk, and clothing industries, for example, but these cases are rare and often of doubtful authenticity. Nor have all the publicists of the labor party, who as a rule are fond of dwelling upon the increasing misery of the laboring classes, closed their eyes to the evidence. Many of them admit the improvement and

¹⁴ *A Century of American Wool Manufacture*, by S. N. D. North.

¹⁵ *Labor and Capital*, i, 1085.

derive from it an argument in favor of strikes and labor-unions.

During several years an investigation of this subject was conducted by the New York labor bureau in connection with the labor-organizations of that State. Out of 695 unions interrogated in the year 1894, a large majority, 402, answered that wages had increased since their formation, and claimed the increase as one of the results of organization; 62 answered that there had been a reduction of wages; 174 that there had been no change, and 57 failed to respond. A similar investigation in Illinois, covering 114 occupations and the period 1882-1887, showed that in 19 occupations wages had not changed, that in 72 occupations they had decreased—about 13 per cent on an average, and that in 23 occupations they had increased, about 16 per cent.¹⁶ The general result seemed to show a diminution in the earnings of workmen, but the period was one of commercial depression.¹⁷

At the convention of the Federation of Labor in 1890, the unions reported that 1163 strikes had been declared, all of which, according to the *Official Book* of the Federation,¹⁸ had been successful, securing advances ranging from 7 to 25 per cent. There was a single exception which was explained by the bad state of business.

The most extensive treatment of this subject which has been published in America is the report upon *Wholesale Prices, Wages, and Transportation* presented by Senator Aldrich during the second session of the Fifty-second Congress. The statistician in charge calculated the average rate of wages in twenty-two industries for the years 1840-1891, expressing the results in terms of the average rates of 1860,

¹⁶ *Report of the Bureau of Statistics . . . Illinois*, 1890, p. 361.

¹⁷ See *L'Ouvrier Américain*, chapter x, *Crises et Chômages*.

¹⁸ December, 1892. [In 1898, 260 strikes were declared, involving 22,311 workers, of which 160 were won, benefiting 19,367 persons. *Report of the Proceedings of the International Typographical Union*, p. 113]

which were each represented by 100. In no industry was the average rate of the initial year (1840, where the quotations could be carried back that far) greater than 100.¹⁹ In 1891, however, the lowest average among the twenty-two industries was 137.6. In the carriage and wagon industry the ratio had risen from 100 in 1840 to 202.4 in 1880, and it remained at that point until 1891. The total index-number of wages for 1891 was 160.7.²⁰

In the half-century covered by this investigation it is convenient to distinguish three periods: 1840-1860, 1861-1878, 1879-1891. During the first of these the increase in wages was inconsiderable. In the second, during which values were greatly disturbed by the depreciation of the currency, nominal wages were suddenly elevated to a great height, although not so high, as we shall see later,²¹ as the prices of commodities. During the third period which extends from the resumption of specie payments to the end of the investigation, wages again increased while the value of money steadily fell.

¹⁹ 85 in the building trades; cotton goods 86; illuminating gas 92.7; lumber 59.1; metals and metallic goods 84.6; railroads 89.5; stone 80.4; white lead 90.7; carriages and wagons 100; total average 87.7.

²⁰ Breweries and the building trades are among those industries in which the increase was greatest, the wages of slaters in 1891 being represented by 280, those of brewers by 375. In the 543 series of wage-quotations 6 showed no change, 16 showed a decrease, and 521 showed an increase, in 1891 as compared with 1860.

The total index-number of wages for every tenth year between 1840 and 1890, is given below. The simple arithmetic average of the several wage-variations is given in the first column. In the second column weighted averages are given, the wage-variations in the several occupations being weighted in proportion to the number of employees represented.

Year.	Simple average.	Average according to importance.
1840.....	87.7	82.5
1850.....	92.7	90.9
1860.....	100.0	100.0
1870 (currency).....	162.2	167.1
1870 (gold).....	133.7	136.9
1880.....	141.5	143.0
1890.....	158.9	168.2

²¹ See chapter ix.

This increase of wages has not been perfectly uniform nor has it taken place with mathematical regularity. That the wealth of a country is increasing does not imply that every man is getting rich; the shiftless and the spendthrift we have with us always. So with wages. While they have increased in the great majority of industries, there are trades in which there has been a diminution, particularly at piece-work. Certain localities have been more favored than others; certain periods of depression have seen the workingmen lose part of the gains made in preceding periods of prosperity; in certain industries skilled workmen who received high wages because of their scarcity have now been replaced by ordinary laborers.²² The laboring classes received painful proof of the severities of a crisis in 1873; they underwent another painful experience in the crisis of 1893-1894,^{22a} which in some industries resulted in marked reductions of wages, in others, in prolonged periods of non-employment.

In the *Population Française* I said, speaking of wages: "The doubling of wages in France in the last sixty years is an average estimate based upon figures which we have collected, and which we believe to be correct. Like most averages, however, it may be disputed. It is not difficult to find conflicting instances here and there. . . . But the divergence of extremes does not invalidate a mean when the latter is based upon a majority of the returns." And what

²² In a visit made by the commissioners of labor to the Sparrow's Point Steel Works, near Baltimore, the remark was made to the manager that at the Harrisburg works many of the workman had been able to buy their own homes, whereas the Maryland Company would not sell its land. The manager replied that while the workman might be able to do this when they made from \$4 to \$10 a day, they could not do it when the average wage was \$1.75 (average of skilled and ordinary laborers). However, this statement cannot be accepted as conclusive evidence of the change indicated. See *Fourth Biennial Report . . . Maryland*.

^{22a} In 1898 and 1899 there was a noticeable recovery from the decline noted in the text. The following table showing the course of the wages of railway employees, is taken from the

I have said in speaking of the greater part of the States of Europe I now reaffirm in speaking of the United States.²³ The rise of wages everywhere accompanies the progress of industry—which is due particularly to the development of science, machinery and manufacture on a large scale—and both are contemporaneous with the growth of wealth; the three are intimately connected and dependent upon one another. The growth of the right of association which now permits laborers, formerly isolated, to combine in defense of their own interests, has not been without influence in raising wages.²⁴

Bulletin of the Department of Labor for July, 1899, p. 693. The various rates are expressed in terms of those of 1892. [Tr.]

RELATIVE AVERAGE DAILY COMPENSATION OF ALL RAILWAY EMPLOYEES IN THE UNITED STATES FOR THE YEARS ENDING JUNE 30, 1892 TO 1899.

OCCUPATIONS.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
General officers	100.0	102.9	111.5	102.5	103.8	96.1	97.8	98.0
Other officers	100.0	101.4	106.4	99.5	100.5	99.1	102.3	100.0
General office clerks.....	100.0	101.1	96.7	96.1	95.6	95.6	95.6	96.1
Station agents	100.0	98.2	97.0	96.4	96.4	96.4	95.8	95.2
Other station men.....	100.0	99.5	98.1	99.2	99.2	99.2	101.1	101.1
Enginemen.....	100.0	98.6	98.1	99.0	99.5	99.0	101.0	101.4
Firemen	100.0	100.3	99.0	99.0	99.3	100.0	102.0	102.0
Conductors.....	100.0	101.1	100.0	100.5	100.5	100.5	103.2	102.8
Other train men.....	100.0	101.7	96.5	96.9	98.7	97.4	99.6	100.0
Machinists	100.0	101.4	97.1	97.6	97.6	96.6	97.1	97.6
Carpenters	100.0	102.3	98.8	99.4	98.8	100.0	99.4	100.6
Othershopmen.....	100.0	99.4	97.2	96.6	96.6	96.6	96.0	95.5
Section foremen.....	100.0	100.0	96.7	95.9	95.9	95.1	95.1	96.7
Other track men.....	100.0	101.1	98.3	98.3	97.8	96.6	97.8	99.4
Switchmen, flagmen, and watchmen	100.0	102.1	100.0	102.6	100.0	98.4	99.5	100.0
Telegraph operators and dispatchers	100.0	94.7	95.2	92.3	93.7	89.9	91.3	91.3
Employees (account floating equipment)	100.0	101.8	98.8	98.8	98.8	98.2	100.0	100.6
All other employees (including laborers).....	100.0							

²³ *La Population Française*, vol. iii, p. 97.

²⁴ The maximum list established by the Selectmen of Newburyport in 1777, quoted in this book, shows that at that time wages were relatively high in America, and that, as in Europe, the legislature was prone to interfere in opposition to the workmen when wages showed a disposition to rise.

The local variation of wages.—In the United States as in Europe, wages vary from one occupation to another, and from one place to another at any given time, because they always adjust themselves approximately to the importance of the service and the cost of living.

In 1890 the census office published a table of average wages arranged by States. The table shows that the lowest ranks are held by the old slave States whose average rates vary from \$211 to \$395 per year;²⁸ that the highest wages are paid in the States and Territories of the far West in which the population is sparse, artisans rare, homesteads easily acquired, and where, finally, the customs are more democratic and the labor-organizations more powerful, perhaps, than in the rest of America. In the scale of agricultural wages this section of the country is also at the top. In California, Montana, Colorado, Nevada, etc., the mining industry furnishes another cause of higher wages. That the rate in California is not higher must be attributed in part to the effect of Chinese labor. A French mine-owner told me that in his mine most of the laborers made \$3 a day, only a few as low as \$2, while the Chinese, who did as much work as the whites, received just half-pay.

The great manufacturing States occupy a median position, the general average of the United States being \$484, that of Massachusetts, Connecticut, New York, Pennsylvania,

²⁸ \$211 *per annum* in North Carolina, \$267 in South Carolina, \$307 in Georgia, \$310 in Mississippi, \$329 in Virginia, \$387 in Maryland, \$360 in Arkansas, \$374 in Alabama, \$379 in West Virginia, \$395 in Tennessee.

A comparison of wages in the North and South may be drawn from the investigation of the textile industries made by the United States Commissioner of Labor in 1891. It was found that on an average spinners made 49 cents a day in the North and 43 cents in the South; weavers, \$1.03 in the North and 86 cents in the South; that the general average in the North was 97 cents as compared with 73 cents in the South. This is another proof of the fact that in general wages are slightly higher in the North than in the South, although a few exceptions may exist. See *Seventh Annual Report of the Commissioner of Labor*, pp. 383, 460.

Ohio, Indiana and Illinois being \$493.²⁶ As the farm-hand receives less pay than the factory-hand and as the agricultural population is relatively smaller in the great manufacturing States than in many others, we may conclude that, thanks to immigration, the manufacturer does not have to pay very high wages. We may also gather from the table that protection does not make high wages, nor the productivity of labor fully explain them. For there is no country whose industries are more completely protected and, thanks to machinery, none in which the productivity of the laborer is so great.²⁷

²⁶ AVERAGE WAGES BY STATES, IN 1890.

States.	Average wages.	States.	Average wages.
Alabama.....	\$375	Montana.....	721
Alaska.....	258	Nebraska.....	544
Arizona.....	678	Nevada.....	718
Arkansas.....	359	New Hampshire.....	383
California.....	582	New Jersey.....	516
Colorado.....	720	New Mexico.....	564
Connecticut.....	506	New York.....	549
Delaware.....	451	North Carolina.....	211
District of Columbia.....	625	North Dakota.....	542
Florida.....	470	Ohio.....	478
Georgia.....	307	Oklahoma.....	368
Idaho.....	419	Oregon.....	613
Illinois.....	549	Pennsylvania.....	462
Indiana.....	416	Rhode Island.....	441
Indian Territory.....	456	South Carolina.....	267
Iowa.....	435	South Dakota.....	487
Kansas.....	497	Tennessee.....	395
Kentucky.....	423	Texas.....	470
Louisiana.....	412	Utah.....	545
Maine.....	349	Vermont.....	405
Maryland.....	387	Virginia.....	329
Massachusetts.....	494	Washington.....	621
Michigan.....	404	West Virginia.....	379
Minnesota.....	479	Wisconsin.....	392
Mississippi.....	310	Wyoming.....	768
Missouri.....	534		
		United States.....	484

²⁷ The railway statistics are more trustworthy, although they are composed of diverse elements. The average daily compensation of the fifteen classes of railway employees (officers and office clerks excluded) differentiated in the reports of the Interstate Commerce Commission was \$2.09 in 1898, \$2.00 in 1897, \$2.01 in 1896, \$2.01 in 1895, \$2.00 in 1894. The average daily compensation in each of

The census figures can be used for purposes of comparison, but they do not represent actual wages. It should also be pointed out that the average rate of a State conceals a great number of local variations. Brooklyn and New York, for instance, furnish an illustration of this species of variation. Although in many industries, such as bakeries, gas-works, plumbing, etc., the rates were the same in both cities, carpenters, joiners, and cabinet-makers received a little less in Brooklyn than in New York. The explanation is found in the facts that in New York the population is denser, the cost of living higher, and the trade wealthier.²⁸

In Chicago in 1890, according to the consul-general of France, carpenters received from \$12 to \$20 a week, masons from \$21 to \$30, butchers from \$9 to \$30, cabinet-makers from \$7 to \$16, shoemakers from \$9 to \$12.²⁹ The consul called attention to the fact that the time lost each year would sensibly reduce these nominal rates and that the annual earnings divided by the number of days in the year would only give about \$1.70 (8 fr. 90) for painters and workers in the building trades, \$1.30 (6 fr. 65) for cigar-makers, \$1.20

the ten territorial groups distinguished by the statistics of the commission was, 1897 and 1898:

	1897	1898
Group I (New England).....	\$1.98	\$2.00
Group II (Middle Atlantic States).....	1.95	1.96
Group III (Ind., Ohio, Mich.).....	1.91	1.93
Group IV (Va., W. Va., N. C., S. C.).....	1.57	1.69
Group V (Ky., Tenn., Ga., Fla., Ala., Miss.).....	1.81	1.82
Group VI (N. Da., S. Da., Minn., Wis., Iowa, Ill.).....	2.03	2.03
Group VII (Mont., Wy., Neb.).....	2.28	2.30
Group VIII (Mo., Ark., Ind. Ter., Ok., Kan., Col.).....	2.24	2.21
Group IX (Tex., La., New Mex.).....	2.28	2.30
Group X (Pacific and Rocky Mountain States).....	2.62	2.62

See *Statistics of Railways*, 1897, p. 41 *et seq.*, 1898, p. 44 *et seq.* [Tr.]

²⁸ Joiners in New York, \$3.50; in Brooklyn, \$3.00 to \$3.25. Carpenters in New York, \$3.20 to \$3.60; in Brooklyn, \$2.50 to \$3.33. Cabinet-makers in New York, \$1.66 to \$3.66; in Brooklyn, \$1.56 to \$2.66.

²⁹ The rates stipulated in the agreements between contractors and labor-unions in Chicago in 1893, were higher: 37½ cents an hour for electricians, 35 cents an hour for painters and tin-roofers, \$3.75 a day for plumbers.

(6 fr. 25) for tailors. These are lower than the rates in New York.⁸⁰

I should not be surprised if these local variations in the United States, particularly in the old free States, were less than in France, although the distances from place to place are much greater in the former country. The mobility of the population, the high state of education and, in certain trades, the development of the labor-organizations tend to equalize wages, as water tends to come to the same level in communicating vessels. These generalizations, however, are subject to some exceptions.

Piece-work and piece-work rates.—The piece-rate system is employed in a great number of industries, although in a smaller number, particularly in iron-works and the mines, sliding-scales have been established by mutual agreements between employers and workmen. The first agreement of the latter kind was adopted at Pittsburg in 1865 between a body of iron-manufacturers and the puddlers in their employ. Before this time there had been great fluctuations in the rate of wages. Puddlers had received as high as \$7 a ton before 1850 but successive reductions, accompanied by long strikes, had brought the rate down to \$4.50. During the following decade reductions and advances alternated until in 1860 the rates varied between \$3.50 and \$4. The schedule adopted by the manufacturers and puddlers in 1865 established a rate which varied from \$9.00 to \$4.00 a ton according as the price of iron was $8\frac{1}{2}$, $8\frac{1}{4}$. . . $2\frac{1}{2}$ cents per pound. Shortly after the adoption of the agreement the price of iron fell from $7\frac{1}{2}$ to 4 cents per pound, the workmen became dissatisfied, terminated the agreement and obtained a rate of \$8.00 a ton. One year later this was increased to \$9.00 a ton, but at the end of the year 1866 the employers gave notice that thereafter only \$7 a ton would be paid. The result was a strike, which resulted in the workmen securing the old \$9 rate. Realizing that this arrangement did not provide for fluctuations in the price of iron, the

⁸⁰ *Recueil de Rapports sur les Conditions du Travail*, p. 78.

employers and employees signed a new agreement on the twenty-third of July by which wages ranged from \$8 a ton when iron was selling at 5 cents a pound, to \$6 when the price of iron was 3 cents. In 1874 the manufacturers demanded a revision, but the changes they suggested were not accepted and an extensive strike followed which closed down all the iron-works in the vicinity of Pittsburg. In April, 1875, the manufacturers accepted the terms of the puddlers and work was resumed, but owing to the confused state of trade caused by the fall in the price of iron, general agreements were soon afterwards abandoned and each employer made terms with his own workmen. It was a change in the scale at the Carnegie works which led to the strike and riot at Homestead in 1892.

In 1869 a similar scale was adopted by the miners and mine-owners in the anthracite coal fields, the wages varying in accordance with the price of coal at the mine.²¹ The agreement was not maintained very long and it did not prevent strikes, but it served to introduce the sliding-scale which is now employed in almost every Pennsylvania mine.

It would serve no useful purpose to multiply illustrations of sliding-scales and piece-rates. It is very much harder to get an idea of the daily earnings of workmen from piece-rates than from day-wages, although the two are closely connected. As Mr. Gunton says: "For the same reason that potatoes would be neither cheaper nor dearer because they were sold by the peck or by the pound are wages ultimately neither higher nor lower because work is done by the day or by the piece."²² This relation has often been noticed by economists. Karl Marx, who emphasizes it in his work on capital asserts that the laborer gains nothing from the piece-work system while the employer reaps a great advantage from it. In reality both may be gainers if the tariff is carefully drawn up by mutual agreement. It should be ad-

²¹ This schedule is reproduced in the *Twelfth Annual Report of the Commissioner of Labor of New York*.

²² *Wealth and Progress*, p. 179.

justed, at first, so as to yield about the same remuneration as that received by day-workers in the same trade, and afterwards there should be no objection to reducing the rate if the workman is supplied with a more productive tool or machine. This is only just; the seamstress does not receive as much per yard now as she did when all her work was done by hand; both the selling price and the cost of production must fall as the effort required to produce a given result grows less. But the seamstress makes more to-day than before the invention of the sewing-machine and among those who operate machines, the more skillful receive the higher wages. Piece-rates are based upon the productivity of the average workman, hence they put a premium upon superiority. The sliding-scale, which is much more difficult to establish on a sound basis, seems to be a species of cooperation by which the workman participates in the gains and losses of the entrepreneur.

Wage-statistics.—Occasionally one finds an American who will give you to understand that his compatriots are fond of show, that they like to quote both to themselves and strangers the highest rather than the lowest wages that can be found, and that it is necessary to take current statistics, and even official statistics, with a grain of salt. One of these gentlemen mentioned to me a large Massachusetts lock-manufactory with which he was familiar, in which the workmen had made only \$1.25 a day in 1892 and \$1 in 1893; he added that notwithstanding this fact the statisticians claimed a higher rate for day-labor in this district. Partizans of protection are particularly open to suspicion in this matter because they like to make it appear that labor is more highly paid in America than in other countries, that the rate of wages is a function of the general level of prices, and that if the tariff were reduced, both wages and prices would necessarily fall. The republicans naturally introduce this argument into their party platforms to attract the votes of the laboring classes, but this does not prevent them from introducing the cheap foreign labor that debases wages.

But it is only just to add that the statistical inquiries are often addressed to the wage-earners themselves and that when one questions them with the view of bringing out the woes of the proletariat, their replies are less apt to embellish the situation than to make it out worse than it really is.

The application of statistical methods to the wage-problem requires skill and judgment, and however delicately the operation is conducted, the results are merely approximate. This fact is well understood by the economists who have studied the question closely. An example may be quoted. During the Congressional investigation of the Homestead strike, the president of the Carnegie works produced the pay-rolls for the month of May, with the object of showing that the wages of the rollers of 119-inch plates had been from \$10.79 to \$12.65, and those of the shear helpers \$4 a day, on an average.³³ The document was authentic and the testimony unimpeachable, but the workmen denied that the figures were sufficient to yield a representative average. Taking the figures for the thirty-two preceding months, one of the workmen calculated that the average output was only 1300 tons a month, which would give average rates of \$7.60 and \$2.98 respectively for the two classes of workmen.³⁴ These were high wages, but notably less than those resulting from the May output, because the works had been shut down during parts of the year.³⁵

³³ See the House report: *Investigation of the Labor Troubles at Homestead*, House Reports, 52d Cong., 2d Sess., vol. 3.

³⁴ Mr. Frick estimated the production at 2500 tons before, and 5000 tons after, the introduction of the improved machinery. Whence came the difference of opinion?

³⁵ In the Massachusetts investigations of 1894 the Boston tailors testified that they made from \$20 to \$30 a week in the busy season and from \$15 down to nothing in the dull season. In their testimony, the employers asserted that the workmen made from \$20 to \$25 on an average of the whole year, but they said nothing of the fact that the tailor often had to employ a helper, usually a woman, who sometimes cost as much as \$9 a week. The cotton manufacturers testified that there had been no marked reduction in the cost of production during the crisis of 1893-1894. This statement was denied by the workmen. See *Report on the Subject of the Unemployed*, XIII, LVII.

Agricultural wages.—In my *L'Agriculture aux États-Unis* I have devoted one chapter to the wages of farm-laborers. I shall confine myself here to a résumé of that chapter.

At the end of the war in 1866 the monthly wages of farm-laborers were about \$26.87 in summer, not including board. This rate decreased as the paper currency gradually approached par value, until in 1879, at the resumption of specie payment, it was about \$16.42. In 1882 it had risen to \$18.94 and in 1892 was substantially unchanged (\$18.60). The estimate in paper money produces an illusion which still deceives many people in America. After 1892, however, a real reduction occurred.³⁶ Agricultural wages are

³⁶ This reduction appears in the following statement of average wages in agriculture, prepared by Mr. Henry A. Robinson of the Department of Agriculture.

	Without board.	With board.
1890.....	\$18.34	\$12.45
1892.....	18.60	12.54
1893.....	19.10	13.29
1894.....	17.74	12.16
1895.....	17.69	12.06

Agricultural wages advanced in 1898 and 1899, although they did not return to the highest points reached in 1892 and 1893. In the *Bulletin of the Department of Labor* for July, 1900, pp. 694 and 695, may be found the wages of farm laborers, with and without board, in and out of harvest time, by the day and month, for various years since 1866. The monthly rates, board not included, follow. Except for Oregon, the wages of 1866, 1869 and 1875 are expressed in currency. [Tr.]

WAGES PER MONTH WITHOUT BOARD.

STATES.	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.
Vermont	\$32.84	\$32.40	\$29.67	\$19.00	\$23.37	\$23.00	\$23.25	\$24.80
Pennsylvania	29.91	58.68	25.89	19.92	22.88	22.52	22.24	22.80
North Carolina.....	13.46	12.76	13.46	11.19	12.86	12.85	13.41	12.83
Texas.....	19.00	18.83	19.50	18.27	20.20	18.87	19.20	19.85
Iowa.....	28.34	28.39	24.35	22.09	26.21	25.33	25.60	25.41
Oregon.....	35.75	....	38.25	35.45	33.50	34.00	32.56	31.60

STATES.	1892.	1893.	1894.	1895.	1898.		1899.	
					By the year.	By the season.	By the year.	By the season.
Vermont	\$24.67	\$25.55	\$23.60	\$27.37	\$25.69	\$27.77	\$26.36	\$23.62
Pennsylvania	23.00	22.84	21.32	21.93	20.79	22.60	21.74	23.74
North Carolina.....	13.30	12.50	11.73	11.50	11.69	12.51	11.90	12.83
Texas.....	18.75	18.06	17.73	17.85	17.34	18.23	17.54	18.42
Iowa.....	26.20	27.16	25.29	25.52	24.73	26.02	26.33	27.85
Oregon.....	34.25	30.53	25.73	23.79	27.86	30.73	29.64	32.82

lowest in the South, the average rate since 1882 being about \$14.50. In the rest of the country the rate is much higher: \$26.64 in the Eastern States; \$23.62 in the Central States; \$32 in the Rocky Mountain States; and \$35.50 in the Pacific States. In 1892 the rates were lowest in South Carolina—\$12.50 without, and \$8.40 with, board—and highest in the State of Washington—\$37.50 and \$25. During harvest time the rate increases as the demand increases and the harvest hand receives, with board, \$.70 a day in Mississippi, \$1.70 in California and Minnesota, etc. The general average was \$1.02.²⁷

*Mines and metallurgical industries.*²⁸—*The Sixth Annual Report of the Commissioner of Labor of the United States* was devoted to the cost of production of iron, steel, coal, etc. I quote from that volume the following figures:²⁹ In the bituminous mines the average wages of miners in one large mine were \$2.19½ per day, the average number of days of work 100, and the average yearly earnings \$220. In the other mines reported in which the miners were paid by quantity, the annual earnings ranged from \$92 to \$258. The rate per day of laborers varied from \$1.17½ to \$1.72.

²⁷ A French truck-farmer situated near Philadelphia told me that in his work day-laborers received \$10 a month with board and lodging, while experienced gardeners made from \$20 to \$25.

²⁸ The returns from which I have estimated and attempted to determine accurately, so far as possible, the wages given in the following paragraphs, are to be found in the publications of the various bureaus of labor, almost all of which contain some wage-statistics. I may mention as particularly important the *Fourth Biennial Report of Maryland* (1890-1891); the *Fifteenth Annual Report of Missouri*; the *Ninth Annual Report of New York*; the *Sixteenth Annual Report of Ohio* (1892); the *First Report of North Carolina* (1887); the *Third Annual Report of Maine* (1889). To these sources must be added the *Special Reports of the United States Commissioner of Labor*; the *Report on Manufacturing Industries of the Eleventh Census*; the various Congressional investigations; the *Rapports de la délégation ouvrière à l'Exposition de Chicago*; and data that I myself gathered in the course of my visit. I present these statistics by groups of industries: mines and metallurgical industries, building industries, etc.

²⁹ See in particular, Tables XII and XIII.

In the iron mines the miners made from \$.82 to \$1.69, and even as high as \$2.37, per day; underground laborers \$1.70; surface laborers from \$.98 to \$1.65; timbermen from \$1.05 to \$2.07; carpenters and blacksmiths from \$1.20 to \$2.50.⁴⁰

In the blast-furnaces blacksmiths made from \$1.35 to \$2.75; drivers from \$.60 to \$1.50; laborers from \$.96 to \$1.43; keepers from \$1.45 to \$3.25; keepers' helpers from \$1.15 to \$1.81.

In the finished bar-iron industry laborers made \$1.26; roughers, \$3.33 to \$3.68; straighteners, \$.83 to \$1.35; heaters, \$5.05 to \$7.03; heaters' helpers, \$1.20 to \$2.66; rollers, \$4.29 to \$10.77.

In the mixed iron and steel industry chargers made from \$1.25 to \$2.25; gasmakers, \$1.60; heaters, \$3.84 to \$6.91; heaters' helpers, \$1.30 to \$2.25; rollers, \$5.31 to \$7.39; punchers, \$.80 to \$1.93; laborers, \$.94 to \$1.41; masons, \$1.35 to \$3.72.

In the metallurgical industries as well as in agriculture, wages are higher in the North than in the South. A comparison shows that the difference, although not very great, is still distinctly noticeable in the long run. Thus among blacksmiths the scale varies from \$1.67 to \$2.75 in the North, and from \$1.35 to \$2.75 in the South; blacksmiths' helpers, \$1.30 to \$1.65 in the North, \$1.00 to \$1.25 in the South; brakemen, \$1.50 to \$1.74 in the North, \$1.29 to \$1.50 in the South; carpenters, \$1.60 to \$2.50 in the North, \$1.50 to \$2.48 in the South; engineers (pig-iron), \$1.54 to \$3.00 in the North, \$1.75 to \$2.25 in the South; foremen (blast-furnaces), \$2.09 to \$2.97 in the North, \$1.93 to \$2.48 in the South. With respect to machinists however conditions seem to be reversed: in the North they made from \$1.65 to \$2.61 while in the South the rate varied from \$2.50 to \$3.00.

⁴⁰ According to the Aldrich report the average wages in 1891 were \$1.06 in iron mines, \$1.91 in coal mines, \$3.50 in mines of precious metals. Trappers made from \$.50 to \$.87; drivers from \$.65 to \$1.95; blacksmiths from \$1.83 to \$2.38.

As shown in this report⁴¹ the wage-earners in the two most important metallurgical industries group themselves as follows:

Earnings per Day.	Per cent. of all Employees.	
	Pig Iron.	Mixed iron and steel.
Less than \$1.....	14.95	10.79
From \$1 to \$2.....	78.96	71.32
From 2 to 3.....	4.64	10.02
From 3 to 4.....	1.17	5.08
From 4 to 5.....	0.18	1.44
From 5 to 6.....	0.08	0.32
More than 6.....	0.02	1.03
	100.00	100.00

Low wages are thus seen to be commoner in the blast-furnaces, in which there is little need for skilled labor, than in the steel-mills and iron-works where certain operations, such as the handling of the large roll-trains, require great dexterity.

In the investigation of the Homestead strike made by a committee of the Senate in November, 1892, the chief of the bureau of labor of the Carnegie Steel Company gave the following information in regard to the wages of the workmen employed. The lowest rate, he testified, was 14 cents an hour, or about \$1.40 a day. From this point the earnings gradually rose to \$15 or \$16 a day in the case of a few rollers.⁴² When asked by the chairman of the committee what made the rates so high the witness replied that the work was very difficult and required great skill. In the parallel investigation made by a committee of the House of Representatives, Mr. Frick, the president of the company, presented the pay-rolls of the workmen employed in the

⁴¹ *Seventh Annual Report*, vol. i, p. 840 *et seq.*

⁴² *Investigation of Labor Troubles*, p. 154. I visited the Homestead works which constitute one of the greatest establishments of their kind in the world, and from what I was able to gather, this testimony is substantially accurate. A French engineer said to me that while the drawers made \$4 or \$5 a day and the head roller \$10, one of the directors of the work received only \$2500 a year.

manufacture of the largest sized armor-plate (119 inches thick) during the month of May, 1892. Three rollers who worked at the same train had made 24, 23 and 22 days (8 hours each) respectively during the month, for which they had received \$259.05, \$279.50 and \$278.50, or from \$10.79 to \$12.65 a day. The pay-roll contained 92 names; 8 workmen including the three rollers mentioned, had each made more than \$200; 44, from \$100 to \$199; the shear helpers, who received the lowest pay in this group, had made from \$83 to \$100, or about \$4 a day. As the rollers worked only eight hours a day, it is seen that they received almost \$1.50 an hour. Their wages were among those reduced in the new schedule which caused the strike; the reduction amounting to nearly fifty per cent. Thus, the roller who received \$259.05 would have been able to make only about \$160.32 and the shear helper who made \$97, only about \$42 under the new schedule.

To the same roll-trains about 200 other workmen were attached, who were grouped on another pay-roll. The wage-scale of the latter group was very much lower than that of the former, running from \$122 (a single name) to \$40, for amounts of work ranging from 25 to 31 days. The average rate of the 276 persons employed on the largest armor-plates was \$73. I was struck with the fact that while the names upon the first roll were almost without exception English, those upon the second roll were Slavic, and several of the latter group had been employed only a few days.

The manufacture of the 32-inch plates did not present the same difficulties and consequently did not require labor of such a high grade. The rollers in this group received only \$118.85 a month, the laborers from \$55 to \$42. In the manufacture of open-hearth steel the ordinary laborers received about the same rate, while the first-class workmen made from \$100 to \$168.⁴³ On an average the employees

⁴³ *Labor Troubles at Homestead*: House Report, Fifty-Second Congress, second session, p. 5 *et seq.*

worked 270 days a year. The total wages for the month amounted to \$193,150, which divided by the 3787 workmen, among whom we must count a certain number of children and those adults who had worked but a few days, gives a *per capita* rate of \$51. During the week the rolling-mills ran day and night, served by three eight-hour shifts. On Saturday at three o'clock the rolls were stopped; work being resumed at eleven o'clock Sunday night. Some of the men worked eleven hours a day.

These wages were determined by an agreement for three years made in July, 1889, between the company and the Amalgamated Association of Iron and Steel Workers; they varied in proportion to prices, which were calculated each six months by a mixed committee. The minimum price recognized in the scale was \$25 a ton. One of the clauses of the new schedule reduced this basis to \$22. The association objected to this on the grounds that if the minimum were lowered the company would reduce the selling price under the pressure of competition, and in the end, the difference would come from the pockets of the workmen.

In California where wages are high, most of the workmen who responded to an inquiry of the Commissioner of Labor on this subject, received from \$2.50 to \$3.50 per day. A small minority made from \$5 to \$6; a large number \$3; the great majority from \$.75 to \$2.50.⁴⁴ As a general rule wages in the metallurgical industries seem to be higher in the West than in the East. Thus in Montana in 1894 the daily rate varied from \$2.72 for laborers up to \$4 for pumpers, carpenters, etc., and even \$5 for refiners.⁴⁵

The information collected in the works which I visited, confirm these statistics and sustain the conclusion that in the iron and steel manufacture there is a small body of select workmen who receive very high wages, ranging from \$6 to \$12 a day, a larger group of skilled workmen who

⁴⁴ See *Fifth Biennial Report . . . California*, 1891-1892.

⁴⁵ *Bulletin of the Department of Labor*, March, 1896, p. 269.

make from \$2 to \$4 a day, and a still larger number of laborers who earn from \$1 to \$2 a day. According to the classification of wage-earners in the iron and steel industries, employed at the Eleventh Census, \$118,000 out of \$168,943 were paid to workmen making from \$7 to \$15 a week, and the general weekly average was about \$11." In the manufacture of iron and steel forgings about one-half the workmen made from \$10 to \$20 a week." In the manufacture of cast-iron pipe, one-half of the 7283 workmen made from \$7 to \$10," and in that of wrought-iron and steel pipe, 5000 out of 11,544 workmen made from \$8 to \$10 a week. In the manufacture of locomotives the average was above \$12. More than 5000 out of 13,342 workmen in the last named industry received from \$12 to \$25 or more a week.

Building.—If we except a small body of men like the steel-rollers who operate difficult machines, and a small number of fine artificers who receive an exceptional compensation everywhere and particularly in America, there is no class of trades in which average wages are so high as in the building trades, especially in the cities. According to the Aldrich report, average daily wages throughout the United States in the several building trades were in 1891 as follows: plumbers \$3; plasterers \$3.50; carpenters \$2.61; carpenters' helpers \$1.33; masons \$3.50; masons' helpers \$1.58; bricklayers \$3.66; bricklayers' helpers \$2.05; painters \$2.43; stone-cutters \$3.64; laborers \$1.45. New York furnishes another instructive example. In 1893 the forty-two building trades distinguished in the reports of the labor bureau, were grouped as follows with respect to the amount of the daily wage: \$4.50, one trade (brownstone-cutters); \$4, twelve trades; \$3-\$3.75, twenty-one trades; less than \$3, eight trades. In five of these the working-day was nine hours long; in the others, it was eight hours; none worked more than eight hours on Saturday. In twelve trades, then, the

⁴⁶ *Report on Manufacturing Industries*, iii, p. 390.

⁴⁷ *Ibid.*, p. 425.

⁴⁸ *Ibid.*, p. 489.

hourly rate was 50 cents; in the lowest ranks, which contain only helpers and laborers, the rate was 25 cents.⁴⁹ The labor bureau of Ohio calculated (1892) that wages in the building trades varied from \$4.50 (bricklayers) to \$1.75 (lathers). The average was about \$3.

Ten years previous, before the committee of the Senate on Education and Labor, a carpenter testified that wages in his trade were on the average of the whole United States from \$2.50 to \$3.00, \$3.50 in New York, and from \$2.50 to \$3.00 in Washington, although the cost of living was not less in Washington than in New York. On account of the time lost, he continued, carpenters only made about \$455 a year, and in consequence they had only about \$1.45 a day for all their expenses.⁵⁰ At the same epoch stonecutters made \$3.50 a day at New York and from \$2.50 to \$3.00 in Massachusetts.⁵¹ A granite-cutter who made \$3 himself testified that in his opinion \$2.75 was about the average rate in Massachusetts.⁵² At the same investigation a bricklayer testified that the New York rate (from \$4 to \$5) which seems very high, was nevertheless exceeded in several places, rising as high as \$7 and \$8 a day in Kansas, where a great deal of building was being done. He added that the existing rate in New York did not seem sufficient to pay for the rent and the necessities of life; \$5 would not be too much, he thought, because bricklayers could only work from seven to nine months a year. The unions, he said, were working for this higher rate and at the same time, for the introduction of the eight-hour day.

⁴⁹ Data furnished by Mr. Stevens, assistant-chief of the Bureau of Labor of the State of New York. [In the three months ending September 30, 1898, the twenty-nine trades reporting grouped themselves as follows: three trades \$4 to \$5 a day, eleven trades \$3 to \$4, fourteen trades \$2 to \$3, one trade \$1 to \$2. The unions were divided as follows, with reference to the length of the working-day: 145 unions eight hours a day, 6 unions from eight to nine hours, 97 unions nine hours, 3 unions from nine to ten hours, 23 unions ten hours or more.]

⁵⁰ *Labor and Capital*, i, 553.

⁵¹ *Ibid.*, i, 665.

⁵² *Ibid.*, iii, 547.

Although more than fifteen years old the figures and the reflections of the bricklayers are worth preserving. While we in France are astonished to see wages rise so high, those who enjoy the high wages find them scarcely sufficient to cover their needs. The elasticity of man's wants has no limit. While passing a house that was building in Sault-Sainte-Marie I questioned the men, some of whom were Canadians, about their wages. The bricklayers made \$2.50 a day; "but," added one, "the man that can't handle his level only gets \$1.50." This is quite a remove from the \$5 asserted to be necessary ten years before. But Sault-Sainte-Marie is not a large city.⁸⁸

From private information which I received, it may be stated that glass-workers received \$27 a week in Chicago during the exposition—but these men may almost be called artists. Roofers and painters made 35 cents an hour, *i. e.*, \$2.80 per day of eight hours and \$3.15 for nine hours. Laborers in the same lines made from \$1.25 to \$2.00, on an average about \$10 a week, nearly as much as in New York. The contract made with the employers in 1893, a copy of which I have before me, provides for a rate of 25 cents an hour, or \$2 per day of eight hours. In general the contracts prohibit workmen from accepting less than the standard wage, stipulate that overtime shall be paid at a higher

⁸⁸ In Port Arthur, situated at the other end of Lake Superior, the bricklayers receive \$4 a day, because, as a merchant of that place told me, it is necessary to "import" them. Carpenters are paid \$2.50 and laborers \$1.50. During the construction of the Canadian Pacific Railway, the company, which was obliged by its franchise to finish the road at a stipulated date, could not obtain enough workmen, and for years they paid enormous wages in order to attract labor. From time to time groups of workmen came to Port Arthur to spend the night and throw away their wages in various forms of debauchery, so that at night the streets were unsafe for women. Thirty-two hotels were built, of which only fourteen remained when I was there. The merchants got almost anything they asked for their wares: the one who communicated these facts to me had to replace his stock three times during the winter of 1883, and it was during that time that he had gained the small fortune which he possessed.

rate, and that workmen shall receive carfare when the work is at distant places. The highest wages mentioned in these agreements are those of mosaists who received \$4 a day. In the manufacture of clothing, machine-cutters received nearly as much—from \$20 to \$24 a week.

In general, however, the rates seem to be a little lower in Chicago than New York because the cost of living is somewhat higher in the latter place. The masons, however, who without exercising any artistic skill ordinarily make from \$3.50 to \$4.00 a day, demanded as high as \$8 during the construction of the exposition buildings. In some instances carpenters were paid \$9 a day, and when I was in Chicago in August, 1893, they still asked from \$5 to \$6.⁸⁴

Public works.—In the Massachusetts investigation upon the subject of the unemployed Prof. Dewey prepared a comparative table showing the wages of employees on public works in the principal cities of the United States. The wages paid to workmen employed directly by the municipality are, as a general rule, a little higher than those paid by employers doing work for the city under contract. The great majority of rates are between \$1 and \$2, the average being somewhere between \$1.50 and \$1.60.⁸⁵

Street-cleaners make about the same wages. In New York in 1893 they were paid from \$1.50 to \$1.75 a day and on the average made \$11.50 a week for seven days' work. This is an occupation in which the supply of workmen largely exceeds the demand. I asked one mason's laborer what the men in his trade did during the idle season. "Sweep streets, if they have a good political pull," he an-

⁸⁴ A Frenchman who erected some of the buildings at the exposition said to me that the high wages did not make the men do better work. The joiners demanded 45 cents an hour, he said, and would not strike a blow after the eight-hour bell had rung, although many of them did not know their trade. As a matter of fact the way in which the partitions were put together did not speak very strongly in their favor.

⁸⁵ "Wages of Workmen Employed on Public Works in 1893 by

swered. At that time Tammany Hall was in control of the city.

Vehicles.—In one carriage factory in New York, which I visited, the better workmen gained on an average about \$2.75 per day; almost all the work was by piece. The owner of the establishment, an ex-employee, regarded this as better than day-work. "The workman who works for himself and has nobody around watching to see that he gives an hour's work every hour and does a day's work every day, is more of a man," he said to me. As in most other shops the rate per piece was the same for all employees. Some of the workmen, several painters for example, were more careful than the rest, took more time to finish their work, and consequently made less. The employer had wished to make some allowance for their conscientiousness, and had even offered one of them a premium of 25 per cent. But the other workmen objected; they wanted the same rate for all. "Some of the preferences of the workman," added the owner, "are very singular, and cannot be explained."⁵⁶ In another New York factory which manufactures principally a fine grade of carriages, the wages vary from \$2.50 to \$7, and some of the men even make \$10. One manufacturer of street-cars at New York who employed 400 men in 1893,

Cities." (From the *Report upon the Subject of the Unemployed, Boston, 1895*, p. 37):

Cities.	City work.	Contract work.
Boston.....	\$2.00	\$1.25-\$2.00
Fall River.....	2.00	1.25- 2.00
Lowell.....	\$1.75-\$2.00	1.25- 2.00
Lynn.....	1.75- 2.00	1.25- 2.00
New Bedford.....	1.50- 2.00	\$1.50
Waltham.....	1.50- 2.25	1.50
New York.....	1.75- 2.00	1.50- 2.00
Brooklyn.....	1.50- 1.75	1.00- 1.50
Baltimore.....	\$1.66	1.00- 1.50
Washington.....	1.25- 1.50	1.00- 1.25
Atlanta.....	0.80- 1.00	1.00- 1.25
Buffalo.....	\$1.50	\$1.50
Indianapolis.....	1.40	1.25- 1.75
Chicago.....	1.50	\$1.25
Minneapolis.....	1.75	1.75

⁵⁶ *Labor and Capital*, ii, 1125.

gave apprentices \$3 a week during the first year and gradually increased this rate, usually by 50 cents a year, until they were earning \$7 a week when they become journeymen. A fair workman paid by the day made from \$9 to \$15 a week; the piece-workers—and the better workmen generally worked this way—made from \$10 to \$30 a week. The relations between the employees and the personnel in this concern were of the best; there had never been any trouble with the unions and certain employees had been in the service more than thirty years. One of the men—this is a rare occurrence in America—had been with them more than forty years.

The largest manufactory of railroad coaches in America—the Pullman works—paid its employees \$2.61 on an average in 1893, the scale varying from \$4.75 for hammersmiths, who make the highest wages, down to \$1.00 for wood-machinists who received the lowest wages. An account of the town and its works, published with the approval of the Pullman Company, stated that in 1892 the piece-workers who worked ten hours a day made from \$2 to \$4, and that the average annual earnings per employee were \$600.⁵⁷

In the Baldwin Locomotive Works all the work is done by piece. The boss of a gang takes the work at a gross rate fixed by the schedule of the company and in turn regulates the rates of the individual workmen in his gang. The boys who are employed as helpers begin at \$2.16 a week (4 cents an hour) and rise to \$3.50 before finishing their apprenticeship; laborers make \$9 a week; machinery adjusters \$12 a week working by the day, as high as \$24 at piece-work; molders \$12 to \$24; ordinary blacksmiths \$15 to \$28; hammermen \$35 to \$40; foremen \$40. While in America I met an Alsatian who had worked at Lyons but who had been in America for many years, and had risen to be boss of a gang of hammermen. He made nearly \$40 a week.⁵⁸

⁵⁷ *The Town of Pullman*, pp. 55 and 74.

⁵⁸ The following table showing the movement of wages in Penn-

In one shipyard in New York the skilled workman made in 1882 from \$3 to \$3.50 a day or from \$15.60 to \$21.00 a week; the day-laborers made not less than \$1.25. According to the census of 1890 out of 24,611 workmen employed in shipbuilding, one-half (12,508) made from \$12 to \$20 a week.

Food-products.—According to statistics covering 48 cities, prepared in 1890 by the Journeymen Baker's and Confectioner's International Union of America, the average wages of first-class bakers were \$14.16 a week; \$11.12 for second-class workmen; \$9.83 in the third-class; \$8.96 in the fourth-class (this figure the statistician thought a little too high); and \$10.04 for pastry-cooks. The general average was \$12.05; the average day, 10½ hours. In 1881 the average working-day was 16⅔ hours and the average wage \$8.20 a week. First-class English or American bakers received \$20 a week at San Francisco; Germans of the same class, \$14. In general, the wages in this trade were highest in California, although at Seattle, Washington, the first-class rate was \$21.04. The lowest rate, \$6 for fourth-class workmen, was found at San Antonio and Brooklyn. Immigration has probably exercised some influence upon the rate in Brooklyn.⁶⁹

sylvania between 1892 and 1898, is taken from the report *Industrial Statistics of Pennsylvania*, vol. xxvi, pp. 125-147.

Industry.	Number of Establishments.	Average Yearly Earnings.		Average Daily Wage.	
		1892.	1898.	1892.	1898.
Locomotives and engines	14	\$598.90	\$576.74	\$1.96	\$1.92
Engines and boilers	6	536.72	503.87	1.66	1.66
Boilers	7	419.41	368.12	1.51	1.33
Car springs	1	675.36	679.73	2.17	2.38
Car couplers	1	545.00	449.43	1.76	1.48
Cars and car wheels	8	533.11	535.49	1.77	1.80
Ship building	1	550.80	490.73	1.78	1.60

In five of the seven industries wages were higher in 1898 than in 1897. [Tr.]

⁶⁹ The average weekly earnings (deduction made for lost time) of employees in manufactories of food-products in Wisconsin in 1897, was \$8.16. This was a slight decrease in comparison with the preceding year. [Tr.]

One of the great milling concerns which I visited in Minneapolis pays its 500 employees \$2.25 a day on an average. The highest wages are received by the superintendents of elevators (average rate \$3.99) and the millers (\$3.16 on an average). The lowest rate is that received by the sweepers (\$1.77). The engineers and firemen make from \$2 to \$3 (mean rate \$2.45).

One of the largest industries of Chicago is that represented by the packing-houses. The wages are good, although there are many more Poles, Germans, and Irishmen employed, than Americans. But the work is rough, the day long—lasting from ten to twelve hours except on Saturday when they close earlier—and in winter the men often have to work on Sundays. The latter is the only form of overtime which is paid at double rates. The pork-killers receive from \$2 to \$3 per day of ten hours; sheepskin-dressers about \$2 (from 17½ to 20 cents an hour); laborers \$1.75. I found but one rate upon the pay-rolls of less than \$1, and one of \$1. They were for boys fourteen and fifteen years old. The women in the packing room, all of whom work by piece, make on an average \$12 a week.

One of the largest breweries in the world, situated at Milwaukee, Wis., employs 1800 workmen and pays them on an average \$2.25 for a day of ten hours (nine on Saturday).⁹⁰ The brewers get \$60 a month; the skilled workmen from \$2 to \$3 a day; the laborers from \$1.50 to \$1.75 a day; the apprentices begin at their fourth month to receive a salary of \$3 a week, gradually rise to \$6 a week in the fourth year, and at the end of their apprenticeship receive a gift of \$100.⁹¹

⁹⁰ The engineers work only eight hours.

⁹¹ I note the following additional examples: At New York workmen in the breweries make from \$30 to \$100 a month, although only a small number receive the higher rates.

In the Senatorial inquest of 1883 the cigar-makers' unions furnished the various average-rates which had obtained among their workmen. The differences are marked, the extremes being \$5 and \$16, though only a small number received the extreme rates. The \$16-rate was paid only in Brattleboro, Vt., and Springfield, Ill.;

Textile industries.—In both the United States and Europe the cotton manufacture is one of those industries in which the pay is moderate. Thus the great investigation of the cost of production⁶² which was carried out with so much accuracy and scrupulous care for details, showed that in the cotton and woolen manufactures three-fifths of the operatives made not more than \$1 a day and that only three per cent received more than \$2. In the iron and steel works about 17 per cent made \$2 or more a day. According to the census of 1890 the average weekly wages of male operators in the principal States were as follows:⁶³

States.	Cotton.	Wool.	States.	Cotton.	Wool.
Massachusetts .	\$8.05	\$8.79	New Jersey . . .	10.44	8.51
Maine	7.52	8.79	Pennsylvania ..	9.71	9.84
New Hampshire	7.56	8.67	Georgia	5.75	7.35
Connecticut . . .	7.68	8.93	North Carolina.	5.25	7.56
Rhode Island ..	7.99	8.98	South Carolina.	5.17	....
New York	7.62	8.09			

The general average calculated in the Aldrich Report is somewhat lower than that indicated in the table, being \$1.13 a day in the cotton, and \$1.17 in the woolen, industries.

The special reports on the textile industries at the census of 1890 contain several tables which furnish precise data. In the woolen industry the average wages of skilled workmen were \$9.02, the extreme average rate being \$12.89 in Oregon and \$6.02 in Arkansas; women averaged \$5.94; children \$3.34; unskilled labor \$8.41. In general the rates in Pennsylvania were higher than in other States and those

almost all the others ranged between \$10 and \$12. In the non-union factories, the witnesses claimed, the rates varied between \$5 and \$8. It seems that in Pennsylvania they were as low as \$2.00 to \$6.00. In one large tobacco manufactory in St. Louis, which I visited, the average daily rate (for men and women) was \$1.25. The carpenters made \$5 and the engineers \$3.50.

⁶² *Sixth and Seventh Annual Reports of the Commissioner of Labor of the United States.*

⁶³ Taken from the *Bulletin of the National Association of Wool Manufacturers*, vol. xxv, p. 267. The inferiority of wages in the South shows itself here as in other industries.

in the carpet manufacture higher than in other branches of the industry. In the cotton industry skilled workmen made on an average \$7.62, the various rates ranging from \$8.68 in the Central States to \$5.49 in the South. In the silk industry, spinners and weavers made from \$6.00 to \$15.74; women from \$4.71 to \$11.28. In general the highest wages were made in the ribbon manufacture.⁶⁴ To these general figures I append, as in the metallurgical industries, a few more specific statistics which I have gathered from various sources.⁶⁵

In the woolen mills at Chelsea, Mass., the overseers made from \$2.50 to \$5.00, and on an average, \$3 a day. The wages were: \$1.75 in the carding departments, \$1.75 in the spinning departments, \$1.33 in the weaving departments (from \$.90 to \$2.00).⁶⁶ These statistics although more than fifteen years old may be utilized here as were the corresponding figures in the metallurgical industries. They are instructive in connection with the following more recent statistics.

⁶⁴ *Report on the Manufacturing Industries of the United States at the Eleventh Census*, pp. 134, 174, 220.

⁶⁵ At the Amory Manufacturing Co.'s works, in which half of the operatives were Irish, and a third Canadian, the weavers averaged \$1.08 a day in 1883. (*Labor and Capital*, iii, 28.) In the Stark Mills the workmen in the carding department made on an average about \$1.25 a day; in the weaving department the men made \$1.56, \$1.10, \$.91; the women \$.84 and \$.74; the children \$.69.

Mr. Henri Schaeffer has had the kindness to collect and send to me the wages in these two factories in 1896. At the Amory Manufacturing Company the rates were as follows: carding department, \$1.15 men, \$1.05 women; spinners (frame), \$.80 to \$.95; spinners (mule) \$1.95, and 75 and 45 cents respectively for the two helpers. In the weaving department the rate varies from \$1.15 to \$1.42 according as the operatives tend from 4 to 8 looms, while weavers using the Northrup loom make as high as \$1.66. During the month of July the average earnings of the 1150 employees were \$29. In the Stark Mills which manufacture principally cotton duck and bagging, the wages varied from \$1.66 (weavers) to \$1.02 (carders) and \$.91 (spoolers). It may be stated that wages in these two establishments had undergone no substantial change for ten years.

⁶⁶ *Labor and Capital*, iii, 319.

From very accurate data which a woolen manufacturer of Lowell was kind enough to gather for me by questioning his foreman and employees it appears that the average workman made about \$300 a year which, with the wages of his children, brought the annual income of the family up to \$825. The wool-sorter made \$624 and this increased by the wages of one child, made the earnings of the family \$749. The foreman received \$1250, but he was the only wage-earner of the family.

In another typical woolen factory in Lowell the workmen (by day) made from \$1.25 to \$1.50 a day; the average weekly wages of weavers (by piece) were \$9 for men, \$7 for women. In another well-appointed dyeing and bleaching establishment of Philadelphia the average rate varied from \$5 to \$18 per week for time-workers and from \$5 to \$22 for piece-workers. In the former class the average wages of men were \$12.57 and of women \$7.43; in the latter class the men averaged \$11.90, and the women \$6.80. In a finely equipped spinning mill in New Bedford, Mass., in which the employees work ten hours and a half except on Saturday when work stops one hour earlier, most of the operatives are Irish or Canadian. The following wages are paid: in the spinning department; from \$14.40 to \$19.59 a week (average \$16.47) to men, from \$6.00 to \$7.50 to women, from \$4.80 to \$5.15 to children; in the carding department from \$11.25 to \$16.38 to men, and \$8.25 on an average to women. In the Howland Mill one "mule-spinner" made as high as \$19 a week, but the other employees made from \$4.61 to \$15.00. On the books of one of the largest cotton factories in Massachusetts I found the following rates of wages: weavers, \$9 a week on an average; spinners (men), \$11.15; engineers, \$12.75; firemen, \$10; teamsters, \$9.00; laborers, \$7; children, from \$10 to \$16 a month. In one of the principal Rhode Island firms I found almost exactly the same rates: \$12.75 for engineers; \$11.15 for spinners; \$9 for weavers; \$7 for laborers. The scale runs from \$2.10 to \$1.15 in both places.

It may be worth while, without going into detail, to contrast the rates in the South and the extreme West with those in New England. In California, according to the *Fifth Biennial Report of the Bureau of Labor* of that State, the scale runs from \$3.50 to \$.60, with an average working day of ten hours and three-quarters. According to the *Fifth Report of the Bureau of Labor of North Carolina* the rates in that State vary from \$3 to \$1.50 for operatives, with an average rate of 75 cents for helpers and laborers. The working-day in North Carolina is from eleven to thirteen hours.⁶⁷

A print-cloth factory in Lowell which I inspected, and whose workmen are of the highest grade, pays the engravers which it employs from \$25 to \$27 a week and the printers \$28 and more, but an apprenticeship of seven years is required before a workman makes more than \$20 a week.⁶⁸ These workmen belong to the Calico Printers' Union which requires employers to pay half-wages during periods of non-employment. The laborers in this factory, as elsewhere, make from \$6 to \$9 a week. The normal working-week is fifty-eight hours, and overtime is paid twenty-five per cent extra.

Clothing.—In America, as in Europe, the members of this occupation receive comparatively small wages. In New York before the Civil War tailors made from \$8 to \$10 a week, working at home and assisted by their wives. They

⁶⁷ Mr. Henri Schaeffer has communicated to me a detailed statement of the wages paid at the Manchester Mills, New Hampshire, in July, 1896. During the month the 2770 employees received \$70,455, an average of about \$25½ for men, women and children. The working-day was ten hours long and the average time made in July, 23 days. In the carding department the men made \$1 a day; in the spinning department, the spinners made \$1.35 and the helpers 80 cents; laborers made \$1.15 and overseers \$3.49. In the printing department the wages were high, \$36 a month on an average with an average working-day of 9¾ hours. In the latter department the overseers made \$5.62, the engravers \$4.16, the printers \$4.47, and the dyers \$1.75.

⁶⁸ During the first year printer's apprentices receive \$7 a week; during the second year \$9; during the third \$11, etc.

do two or three times as much work now as they did then, but the rate per piece has been considerably reduced: a fine child's jacket which cost \$3 to make in 1873, cost only \$1 in 1883. At the latter epoch tailors made \$8 or \$9 a week and women working at the machine made nearly as much, while button-hole workers working by hand could only earn about \$3 or \$4. Although money-wages were as high in 1883 as before the introduction of the sewing-machine (about 1854), said a witness before the Senate Committee on Education and Labor, this amount of money would only buy about half as much in 1883 as in 1854.⁶⁹ But the witness did not specify the commodities which were so much cheaper at the earlier date: it would be something of a task to show that prices had risen in this proportion during the interval in question. In 1883 cutters made \$15 a week. Before the invention of the cutting machine and while prices were inflated by the depreciation of the paper currency, cutters had made as high as \$30 a week in New York.⁷⁰

However, wages in this industry do not seem to be lower than in previous years. In Philadelphia in 1893, as I was informed by a French resident of that city, union tailors made from \$18 to \$20 a week, and non-union tailors from \$10 to \$15. A contract signed in 1893 by the ready-made clothing manufacturers of Chicago and their workmen, provides that cutters shall receive from \$15 to \$24 a week, according to the kind of work, for fifty-eight hours. Cutters, however, have always received the highest rates in this industry.⁷¹

Printing and engraving.—The members of this trade are more highly remunerated than those of the clothing trades, although the scale of wages is not the highest in the United States.

The International Typographical Union enforces a slid-

⁶⁹ *Labor and Capital*, i, 414, 417.

⁷⁰ *Ibid.*, p. 748.

⁷¹ For further information upon the wages and conditions of labor in this industry, see *L'Ouvrier Américain*, chap. vii, pt. i.

ing-scale whose rates vary in different places. The lowest rate for compositors, from \$9 to \$11 a week, obtains in 35 localities; the average rate which applies to 167 localities is between \$12 and \$18; in 37 localities it is higher. In Boston it is \$15; in Philadelphia \$16; in New York, Chicago and St. Louis, it is \$18. Compositors in the government printing office in Washington receive \$19.20 a week.⁷²

When I was in New York, and went through the press rooms of the *World* and *Tribune*, the hand-compositors on these papers received 50 cents a thousand ems; compositors working with the old machine were paid a rate equivalent to 27 cents a thousand, and those who used the new machine about 21 cents a thousand. The fixed rate for night work and overtime was 85 cents. The compositors on the *World* who worked six nights a week, eight hours each night, received \$27.

Work on the type-setting machines is usually paid by the day—\$5 or \$6, at a rate determined by the earnings of the hand-compositors. It is not paid by quantity because the workmen did not care to reduce the tariff and the employers on their side did not wish to pay the usual rates per thousand ems. Until the present time union workmen have steadily refused to work in shops in which more than a certain number of machines per workman were used.⁷³ Compositors working by the day receive on average about \$3.50.

⁷² *Rapport de la délégation ouvrière à l'Exposition de Chicago*, p. 61. According to the Aldrich report the average wages of compositors were \$2.53 a day in 1891. [Compositors in the government printing office now receive 50 cents an hour.]

Between 1864 and 1890 the variations in the rate of wages of book-compositors at Troy, according to the bureau of labor of New York, were as follows:

1864.....	\$11.00	1876-1877.....	\$17.00
1865-1867.....	13.00	1877.....	17.00
1868.....	17.00	1878-1885.....	15.00
1874-1875.....	18.00	1886-1890.....	16.00

⁷³ This statement is hardly correct at present. While testifying before the Industrial Commission President Donnelly of the International Typographical Union was asked: "Do you think there are as many printers employed to-day as there were before the in-

In 1883 the representative of the federation of typographical unions, then assembled in Chicago, stated that wages had decreased in the preceding decade. He attributed this diminution to the crisis of 1873 and complained that the workmen had found it impossible to restore the old rates, in spite of their strikes. They used to get 55 cents per thousand ems, he said, but at that time the rate was not over 40 cents, or about \$2.50 a day. But this delegate probably took no account of the change in the value of money.⁷⁴

At the same period a first-class printer at Cincinnati made \$4 a night, but he missed four nights a week on an average and in addition had to throw in his case during the day—a requirement that was almost universal at that time. But this testimony must have referred to an exceptionally good workman because many compositors at Cincinnati did not make more than \$2 a day at that time. The low rate which was said to obtain at Boston must have been brought about by unusual competition, as the typographical union had fixed the wages of union workmen at \$15 a week. The lowest wages were paid to varnishers who made from \$7 to \$9 a week in 1883.⁷⁵

At present⁷⁶ the wages of printers in Massachusetts vary greatly according as the work is ordinary or difficult, on books or on newspapers, during the day or the night: the

roduction of the Mergenthaler linotype?" He answered: "Not so many to-day [May 9, 1899], but with a continuation of present conditions one year from now there will be as many." [Tr.]

⁷⁴ In Cincinnati the rate was then 37 cents for day-work and 40 cents for night-work. Another workman stated that in Cambridge, where there are two of the largest book-printing establishments in America, the compositors had made only from \$7 to \$9 a week (which seems very low) until May, 1883, when they were given an increase of \$1.50 per week. *Labor and Capital*, i, 567, 658.

⁷⁵ *Labor and Capital*, i, 407; iii, 582.

⁷⁶ The following quotations of average daily wages of compositors in Boston, are taken from the *Labor Bulletin of the Commonwealth of Massachusetts*, January, 1899, p. 2:

1870. \$2.26	1890. \$2.65	1896. \$2.64
1880. 2.57	1895. 2.61	1898. 2.63 [Tr.]

scale extends from \$8 to \$25 a week. Some workmen receive 39 cents per thousand ems; women make about 27 cents per thousand. At Chicago the rates for union workmen were as follows in 1896: hand-work, 45 cents a thousand on morning papers, 40 cents on evening papers; on the machine, 15 cents on morning papers, 13 cents on evening and Sunday papers or on books. The rate on the machine by the hour was 55 cents for morning papers and 50 cents for evening papers.⁷⁷

The range of wages.—One would be at a loss to give complete statistical data of wages in a country so vast and in which the occupations are so diverse, as the United States. It would be equally impossible to calculate any accurate general average, not only because wages are different in different occupations, but because in any given occupation the rate of pay varies with the rank and role of the workmen. The equality of wages is a chimera belied by facts and, as a doctrine, condemned by equity and common sense. Rates vary in the same factory as they vary from trade to trade, in accordance with age, sex, skill, and employment. We have already seen several examples of this diversity.

Proceeding on the principle that average rates are too indefinite to be useful, Mr. Wadlin, Chief of the Bureau of Statistics of Labor of Massachusetts, made a special investigation in 1889 of the number of workmen in the different classes of each trade. Even the workmen of the building trades are far from securing a uniform rate of wages, although their agreements with employers usually call for the same rate in any given class. Thus, out of 18,919 workmen in this group, 67 per cent received from \$12 to \$20 per week, 5 per cent received more than \$20 and 28 per cent less than \$5 per week.

This investigation covered 24,820 persons, more than 60

⁷⁷ The average daily wages of compositors in Chicago, as given by *Bulletin of the Department of Labor No. 18*, p. 673, were \$2.88 in 1870, \$3.11 in 1875, \$3.29 in 1877, and \$3.00 from 1879 to 1898 inclusive. [Tr.]

per cent of the laboring population of Massachusetts. It revealed the fact that $16\frac{1}{2}$ per cent (9 per cent of the men, and $34\frac{1}{2}$ per cent of the women) made less than \$5 a week;⁷⁸ $28\frac{1}{2}$ per cent from \$5 to \$8, 26 per cent from \$8 to \$12, 15 per cent from \$12 to \$15, 14 per cent more than \$15. In the first rank came the building industries; after these the boot and shoe, edge-tool, watchmaking, jewelry, tobacco, and toy industries are those in which the largest proportions of workmen receiving more than \$12 a week were found.⁷⁹ The following classification was made by Mr. Wadlin in 1891 and covers all the industries of Massachusetts:

Wages.	Per cent. of Workmen.	
	1891.	1898. ⁸⁰
Under \$5.....	8.1	15.7
\$5 but under \$6	4.7	10.4
6 " 7	8.0	11.8
7 " 8	8.8	10.9
8 " 9	8.2	9.0
9 " 10	13.2	9.8
10 " 12	14.3	10.7
12 " 15	16.9	11.2
15 " 20	13.4	8.0
20 and over.....	4.4	2.5
	100.00	100.00

As shown in the above table nearly one-half of the workmen received between \$9 and \$15 a week. In Wisconsin two similar investigations covering nine-tenths of the laboring population show that one-half of the wage-earners in that State were included in the \$6 and \$12 classes:⁸¹

Wages.	Per cent. of Workmen.	
	1891-1892.	1895-1896.
More than \$4 a day	2.2	1.8
Between \$3 and \$4 a day	6.6	3.4
Between 3 and 2 a day	18.5	15.9
Between 2 and 1.50 a day .	28.6	23.0
Between 1.50 and \$1.....	29.1	37.5
Less than \$1 a day.....	15.0	18.4
Totals.....	100.0	100.0

⁷⁸ This class is found principally in the textile industries, and the manufacture of jute goods, cordage, and jewelry.

⁷⁹ *Twentieth Annual Report*, p. 403 *et seq.*

⁸⁰ From *Annual Statistics of Manufactures*, 1898, p. 183. [Tr.]

⁸¹ See *Report of the Bureau of Statistics of Wisconsin*, 1891-1892,

In his interesting work entitled *Industrial Evolution of the United States* Carroll D. Wright states that 35 per cent of the 59,784 hands employed in a number of representative establishments, earned from \$1.00 to \$1.60 a day. The average rate was between \$1 and \$2, and he adds that the number earning more than \$2 was greater than the number earning less than \$1.⁸²

An interesting illustration of the difference of wages in an establishment in which the conditions of work and the rate per piece were the same for all, is found in a Massachusetts manufactory of cottonades. Of the 177 weavers in this factory some tended four looms, others six, others eight, and the daily wages varied from 60 cents to \$1.49, very nearly in proportion to the number of looms that the workmen ran.⁸³ In other mills making slightly different grades of goods, the operatives directed from two to six looms and the scale varied from 52 cents to \$1.60 for men and from 74 cents to \$1.39 for women. In classifying the 687 workmen in these establishments, 90 are found at one extreme

p. 101; 1895-1896, pp. 370, 371. The second investigation covered 76,339 men and 7696 women. For similar statistics of New Jersey see the *Report of the Bureau of Statistics of Labor and Industries of New Jersey*, 1885, pp. 1-37; 1888, p. 246.

[The following table shows that in Wisconsin in 1896-97 just about one-half of the working population earned from \$7 to \$12 a week]:

	1896.	1897.
\$20 and over	2.6	2.5
15 but under \$20	5.6	5.5
12 " 15	10.0	11.4
10 " 12	9.1	9.5
9 " 10	17.8	14.5
8 " 9	9.7	10.6
7 " 8	14.7	15.2
6 " 7	9.7	9.0
5 " 6	5.3	4.6
Under \$5	15.5	17.2
	<hr/> 100.0	<hr/> 100.0

Eighth Biennial Report . . . Wisconsin, pp. 683-684.

⁸² P. 221.

⁸³ *Seventh Annual Report of the Commissioner of Labor*, vol. i, p. 370.

with an average remuneration of \$4.26 a week, 8 at the other extreme, making on average \$11 a week; the general average was \$6.46.⁸⁴

Going a little more into detail we find from the same report that the children under sixteen years of age, back boys, band boys, etc., made from 21 cents to \$1.20 a day, a large majority making from 40 to 60 cents. Further classification of the employees in the 64 establishments from which the above figures were secured show that warpers made from \$.21 to \$2.80; weavers from \$.21 to \$2.60 with an average of \$1.00; weaver's apprentices about 50 cents; washers from \$.41 to \$2.00; spinners, frame and mule, from less than \$.21 to \$2.60; carders from \$.21 to \$3.00. Of the other craftsmen employed in textile factories carpenters made from \$.61 to \$3.60; engineers from \$1.20 to \$5.60; masons from \$1.01 to \$3.60; day-laborers from 21 cents to \$2.80.⁸⁵

A still more extensive range of wages has been shown to exist in the building industries, by an investigation made in Wisconsin in 1891. Out of 2813 craftsmen, 4 made from 60 to 70 cents an hour; 174 from 40 to 60 cents; 1120 from 25 to 37 cents; 572 from 20 to 24 cents; 1013 from 12½ to 19 cents; 30 from 5 to 11¼ cents. The mean rate was 22 cents; the extremes, as we have seen, 70 and 5 cents. Foremen were counted as workmen in this investigation.⁸⁶

⁸⁴ Earnings per week.	Weavers.	Average earnings per week.
Under \$5.....	90	\$4.26
\$5 and under \$6.....	148	5.54
6 " 7.....	223	6.44
7 " 8.....	129	7.42
8 " 9.....	69	8.33
9 " 10.....	20	9.24
10 " 11.....	6	10.34
11 " 12.....	1	11.75
12 and over.....	1	12.12
Totals.....	687	6.46

Seventh Annual Report of the Commissioner of Labor, vol. i, p. 372.

⁸⁵ *Seventh Annual Report of the Commissioner of Labor, vol. i, p. 822 et seq.*

⁸⁶ See *Report of the Bureau of Statistics . . . Wisconsin, 1891-1892.*

The report of the commissioner of labor from which we have been quoting furnishes a classification of wage-earners in the cotton and woolen, glass, and mining industries similar to that which has been quoted in the section on mining and metallurgical industries. The latter scale is repeated here for purposes of comparison: ⁸⁷

Wages.	Mixed iron and steel. Per cent.	Glass. Per cent.	Bituminous coal. Per cent.	Coke. Per cent.	Cotton and wool. Per cent.
\$1 and under.....	10.79	34.12	12.74	20.81	63.92
From \$1.01 to \$2.00...	71.32	28.95	71.98	67.65	33.44
" 2.01 to 3.00...	10.02	9.74	15.16	11.17	2.07
" 3.01 to 4.00...	5.08	10.64	0.08	0.37	0.44
" 4.01 to 5.00...	1.44	9.06	0.04	....	0.12
" 5.01 to 6.00...	0.32	4.36	....	....	0.01
More than \$6.00.....	1.03	3.13	....	....	....
	100.00	100.00	100.00	100.00	100.00

The glass and steel industries, although they employ a large number of workmen, pay very high wages, 15 per cent of the employees in the latter industry earning from \$2 to \$4 a day; 36 per cent in the glass manufacture making more than \$2 a day. Miners and coke-makers occupy a middle rank; the employees of the cotton and woolen mills form the lowest class. In each industry the employees are spread out in a long series and some workmen are found who earn five or six times as much as others. But it is the great majority which determine the mean and this majority varies; in the metallurgical group there is only one workman in ten who does not make more than \$1; six out of every ten in the textile industries make \$1 or less.

Résumé.—The preceding enumeration of wages has been lengthy and might have been indefinitely prolonged since almost all of the three hundred odd reports which the labor commissioners have published contain statistics of wages. It seemed necessary to me, however dry it may prove, to present these quotations to the reader. My object has not

⁸⁷ *Seventh Annual Report*, vol. i, p. 841.

been to calculate a mean; an average is impossible, and if secured, would be meaningless. What I have aimed to do is to furnish abundant and irrefutable proof that amid the diversity arising from differences of place, occupation, and individual capacity, wages are in general high in the United States. There are exceptions, of course, rates cannot be high in all classes because immigration continually supplies a mass of low-grade labor, and there is a multitude of day-laborers who have no special skill—nothing but their hands to depend upon—and consequently are subjected to an unlimited competition. Nor have wages advanced in every calling: in many industries skilled workmen have ceased to be as scarce as formerly; in others the development of machinery has made the skilled workman less indispensable than before.

I have already cited some of these exceptions and will speak at greater length of others in the two following chapters, but in the case of men's wages at least, these deviations are completely obliterated by the general trend. The wage-scale starts with small boys who make from 33 to 66 cents, passes to farm-laborers who receive from 33 cents to \$1.33, to spinners and weavers who earn on an average from \$1 to \$2, to laborers who make from \$1.25 to \$2.00, to craftsmen who receive from \$1.50 to \$3.00, to machinists who receive from \$2 to \$3, to members of the building trades who make from \$2.50 to \$4.00, and finally to the highest-grade workmen of the glass, iron and steel industries who make from \$5 to \$10 a day. To these it might be necessary to add a certain class of artificers who, in reality, are artists rather than artisans. Between these extremes which can be indicated only in a very rough way, the wage-earners of all other occupations range themselves.

If it be asked what is the general mean, it must be answered first of all that no such result is obtainable; the elements are too incomplete and heterogeneous to afford the possibility of a precise calculation. If some answer be insisted upon, one might hazard the guess that during the

period 1890-1893 the average rate of wages of men employed in industry in the United States was somewhere between \$1.75 and \$2.00 a day.⁸⁸ This seems to be the most reasonable estimate. By way of verification I have gone through the four volumes of the Aldrich report and calculated that the average rate in 207 distinct occupations was \$2.07 in July 1891.⁸⁹ The result is entirely confirmatory of the estimate just given. Another verification is found in the paper of Mr. Ethelbert Stewart on the hourly rate of wages in four large cities in 1895, published in the *Bulletin of the Department of Labor* for November, 1896. This was a year of low wages, and yet the calculations show that the mean rate for nine hours' work was \$1.93 in Baltimore, \$2.61 in Boston, \$2.53 in New York, and \$2.43 in Philadelphia.⁹⁰

⁸⁸ The average daily wage in 25 occupations for the largest twelve cities of the United States in 1898 was, as reported in *Bulletin of the Department of Labor* No. 18, \$2.43. An investigation of average wages was also made in Missouri in 1898, covering 39,320 males and 11,457 females, exclusive of clerical help. "The average daily wages paid to skilled males, for all of the industries, was \$2.25; unskilled males, \$1.23; skilled females, \$1.32; unskilled females, \$.78, being a slight increase over the previous year." *Twenty-First Annual Report . . . Missouri*, p. 12. [Tr.]

⁸⁹ The result is based upon the returns in Table XII covering 88 establishments, and Table XIII of the Aldrich report. In computing the mean I arranged all the rates paid in July, 1891, in groups, the number of recipients in each case being ten or more. A simple average was then taken by dividing the sum of the average rates of these groups by the number of groups. A similar estimate was made by the Connecticut Bureau of Labor in 1896. The average rate of 83,051 workmen, calculating on the basis of a ten-hour day, was \$1.66. But this calculation included men, women and children. In the trades pursued only by men the rate was much higher as a rule; in the manufacture of fire-arms, \$2.15; machinery, \$2.04; silverware, \$2.15; lumber, \$1.76; iron \$1.92. In the manufacture of hardware, however, the rate descended to \$1.64. The highest rates paid to men were between \$5 and \$6; and the lowest, 50 cents. *Twelfth Annual Report of the Bureau of Labor Statistics of the State of Connecticut*.

⁹⁰ The statistics of each city rest upon returns from at least 75 occupations. The average rate per hour was 21½ cents in Baltimore, 29 cents in Boston, 28 cents in New York, 26 cents in Philadelphia. The returns are from private industries; in the public service the rates are in general higher.

Brief comparison with other countries.—The scale of wages we have just quoted is superior to that of any other country. Although the fact may be self-evident so far as France is concerned it will be useful to support it with a few statistics. One of the witnesses in the Senatorial investigation of 1883 was Mr. Steinway the piano manufacturer. As he was born in Germany and had at that time a factory in Hamburg, he was fully competent to speak about the condition of workmen in the two continents. Mr. Steinway asserted that the workmen in his line of industry made three times as much in New York as in Europe. This proportion is certainly not applicable to all occupations, and the workmen mentioned, being younger at the time of their emigration, had never received full wages in Europe. But the superiority of American wages is incontestable, whatever its degree may be.

With respect to England the superiority has been denied. In the investigation of 1883 a tailor who had been born in England and was then a resident of New York testified that from an intimate knowledge of the labor question in Europe and America he was convinced that the condition of workmen was substantially the same throughout the civilized world, that the masons, carpenters and joiners of England would compare favorably with those of America, and that English miners were in a far better moral condition than American miners. This witness may be suspected of a little exaggeration as he had taken a prominent part in the labor movement in Europe,⁸¹ but another asserted that the workmen in the Clyde shipyards received better wages than those in the Delaware yards.⁸² A third, however, an engraver of rollers, who had worked in two countries, said in response to the question:⁸³ "which on the whole is the most prosperous and happy and contented class of people, those there [in England] or those here?"—"I think they are decidedly better off here than they are there."

⁸¹ *Labor and Capital*, i, 841.

⁸² *Ibid.*, i, 839.

⁸³ *Ibid.*, iii, 148.

It is not as easy as might be supposed to establish a comparison from the testimony of interested witnesses. The Commissioner of Labor of Michigan furnishes another proof of this statement. He made inquiry of the miners and quarrymen of Michigan who had worked in England, about 400 in number, and all of these without exception answered that they had received more in America than in England, the average monthly rates having been \$16.61 and \$19.07 in England and \$48.76 and \$56.66 in the United States. The difference is so great that it should not have been accepted by the statistician as a correct expression of the facts in the case. If the answers were sincere their significance at most does not extend beyond the trades in question, as not all the workmen I questioned were unanimous upon this point.

Dr. Gould in a paper read in Paris before the *Société d'Économie Sociale* summed up one of the reports of the commissioner of labor, in the composition of which he himself had taken a prominent part, and showed that the average annual earnings of bituminous coal miners were 2133 francs in the United States (508 quotations), 1833 francs in Great Britain (508 quotations); that in the iron industry of America the average workman made 3492 francs a year (623 quotations) while in Great Britain he made only 2195 francs (114 quotations); in the steel industry, 2892 francs in America (183 quotations), 2436 francs in Great Britain (166 quotations). From these averages he concluded that the typical European workman's family (averaging returns from England, Germany, France and Belgium) had an annual income of about 2355 francs, 1841 of which were brought in by the head of the family; while in America the average income was 3111 francs, of which 2672 francs were earned by the head. These calculations applied only to the mining and metallurgical industries. A further investigation of three cotton mills led Mr. Gould to conclude that cotton-spinners made \$1.02 a day in the Northern States,

79 cents in the South, and 66 cents in Great Britain." Such figures are only approximations, but they indicate the superiority of money wages in America."⁹⁵

Mr. Schoenhof in the comparisons of wages in America, England, and Germany, which he made, places America in the first and Germany in the third rank, in all the trades which he investigated. The following table, for instance, he believes substantially accurate for the kinds of wages included:"

	Wages per Hour.		
	United States.	England.	Germany.
Masons.....	45 cts. (New York)	16 to 18 cts.	8½ cts.
Carpenters	30 to 35	16	7½
Spinners (male) ..	15 to 16 (Lowell)	14 to 17	.....
Spinners (female) .	8.4	6	4.8 to 5.2

In the report presented by the committee of the House of Representatives appointed to investigate the Homestead strike it seems to be demonstrated almost beyond doubt that at that time the wages paid in the iron works of America were twice, and in some departments four times, as much as

⁹⁵ See *La Réforme Sociale*, 1893. The number of quotations of wages in Germany and Belgium is not large enough to justify the reproduction of their averages here.

⁹⁶ *Seventh Annual Report of the Commissioner of Labor*, p. 374.

[In *Bulletin of the Department of Labor No. 18*, the results of an investigation of wages in Great Britain, Paris, Liege (Belgium), and the United States are published. While the quotations are such that no comparison between average wages in the several countries may be drawn, the general averages do constitute, in the opinion of the statistician, trustworthy indices of the courses of wages since 1870 in the respective countries. In Great Britain, and Paris wages rose steadily from 1870 to 1896, being 14.6 per cent higher in Great Britain, and 25.5 per cent higher in Paris, in 1896 than in 1870. In Liege and the United States the movement was very irregular, but in Liege the maximum increase occurred in the year 1896 (11.3) per cent, while in the United States wages were lower in 1896 than in any previous year after 1882. The increase in the United States was very regular until 1896 (16.1 per cent), when it began to decline, falling to 10.3 per cent in 1898.]

⁹⁷ *The Economy of High Wages*, p. 10. Coal miners (*ibid.*, p. 200), made \$337 a year in Pennsylvania, \$253 in Staffordshire, \$225 in Saarbruck.

in those of western and central Europe. The report contains a comparative table of wages in the steel works of Europe and America. At the time when the rollers and second shearmen at Homestead refused to submit to reductions from \$7.60 to \$6.33 and from \$4.61 to \$3.71 respectively, rollers were paid \$2.96 at Newcastle, \$1.29 at Brussels, and \$1.08 at Antwerp; shearmen received \$1.26 at Newcastle. Laborers received 92 cents at Hull, 73 cents at Leeds, 58 cents at Brussels, 32 cents at Witkowitz (Austria-Hungary), while at Homestead the better class received from \$1.50 to \$2.00.⁹⁷

The official statistics of England do not cover as wide a variety of topics as those of the United States, but in certain respects their wage statistics are more precise than the American. In an investigation conducted by the Board of Trade in 1886, 8108 replies were received giving statistics of 824,000 workmen. The following results were established: (1) The average annual earnings per laborer were 47 pounds sterling. Only 66,400—about 8.6 per cent—earned more than 70 pounds a year (gas, steel, ship-building industries); while 272,600—33.08 per cent—earned between 50 and 60 pounds (public works, printing, leather, tin, iron and steel, etc.). In the lowest rank about 126,000 persons were recorded whose yearly earnings averaged less than 30 pounds. The most of these were employed in the cotton, silk, woolen, and needle-work industries.

(2) The weekly average was 24s. 6d. for men, from which it follows that the average workman lost a good deal of time, since the annual rate is not fifty-two times the weekly rate. At the bottom of the list, in the mines (metals), the average was 16s. 6d.; at the top of the scale, in the tin manufacture, it was 33s. 5d.; in the cotton industry, which occupied a median position with an average of 25s. 3d., more than half of the workmen made between 15 and 20 shillings.

Mr. Giffen employed these returns to estimate the average

⁹⁷ *House Report 2447*, 52 Cong., 2d Sess., p. 35.

scale of wages in Great Britain and Ireland. This estimate includes agricultural wages which are lower than those paid in the manufacturing industries:

Per cent. of workmen.	Average weekly earnings.
2.7	less than 15s.
20.9	from 15 to 20
35.4	" 20 to 25
23.6	" 25 to 30
11.2	" 30 to 35
6.2	more than 35

"The general impression left by the information before us is that the level of wage-rates has risen considerably during the last fifty years both in respect of their nominal value and (with the exception of house rent in large towns) their power of purchasing commodities. At the same time it appears that the daily hours of labour have during the same period been in most cases shortened, and the sanitary conditions of work improved."²²

In the third volume of his interesting work *Les Classes Ouvrières en Europe* M. René Lavollée has devoted a chapter to English wages, in which he finds some fault with the statistics of the Royal Commission and points out how difficult it is to secure exact results in this question. Mr. Lavollée comes to the conclusion that, as nearly as can be ascertained, the weekly average was 50 francs in the coal mines, from 40 to 42 francs in the blast-furnaces, from 47 to 38 francs in the filatures, from 37 to 21 francs in the manufacture of cotton goods, and from 16 to 18 francs in the boot and shoe industry. Among tailors, he remarks, the rates vary from 19 francs in Scotland to 56 in London. He recognizes that there had been beneath the innumerable fluctuations of the surface a steady tide of progress in the preceding thirty years, but points out that in the immediately preceding year or two a recession had taken place, not only in agricul-

²² *Fifth Report of the Royal Commission on Labor*, pp. 9-10. See also, *Report on the Work of the Board of Trade, 1893-1894*, p. 74 *et seq.*

ture, but in certain other industries like the cotton manufacture, whose outlets had been contracted.

It would not be far from correct, in all probability, to place the average rate in the manufacturing industries at 5 shillings a day. This would bring English wages about 35 per cent beneath American. The difference between wages in France and America is more considerable. According to the French labor delegation, for instance, bronze molders made from 7 to 8 francs in Paris; bronze-platers from 6 to 9 francs; turners from 7 to 8½ francs. In New York the highest class in this industry received from \$3 to \$4, others from \$1.75 to \$2.33.

At one point at least an exact, if not an extensive, comparison of French and American wages can be made. At Havre the captain of the *Touraine* paid laborers 5 francs a day or night. In New York the same work cost \$2 a day and \$4 a night. It is true that these laborers claimed they had work only a part of the week, and it is possible that the work may have been more constant at Havre. But the French labor delegates to Chicago, those who went in the name of the Paris labor-unions as well as those sent out by the commission in charge of the French exhibit, all recognized the superiority of American wages. "In every branch of the trade the men make more than they do in France," writes the latter.*

In France, a report of the *Office du Travail* covering the year 1891 contains the latest official information which we possess upon wages in manufactures. In the department of the Seine the wages of men in private industries was on an average 6 fr. 15 (\$1.19) for a mean working day of ten hours and one-half. The average reached 10 fr. 20 (\$1.97) for decorators and 9 fr. 30 (\$1.79) in the manufacture of tapestry; it exceeded 7 fr. (\$1.35) in the looking-glass, marble-cutting, type-founding, printing, silverware and jewelry, furriery, fur-

* Several however declare that the American laborer loses more time than the French. See *Rapports de la délégation ouvrière*, p. 330.

niture, turning, tinware industries, etc. On the other hand the rate was less than 5 fr. (\$.96) in the starch-making, glue-making, book-binding, rope-making, dyeing, industries. As in America the range of wages is very wide: 1.3 per cent received 2 fr. 50 or less (48 cents), 1.2 per cent received 10 fr. (\$1.93) or more, 16 per cent received 5 fr. (96 cents), and 10 or 11 per cent were grouped at each of the rates, 5 fr. 80, 6 fr., 6 fr. 50, 7 fr., and 7 fr. 50. The great majority in the textile industries were found between 3 fr. 25 and 5 fr. 25 (\$.62 and \$1.01), and between 5 fr. 75 and 7 fr. 25 (\$1.11 and \$1.40) in the manufacture of gold and silverware.¹⁰⁰

In the other departments wages were lower, the general average being only 3 fr. 90 (75 cents). Only three industries, the manufacture of glass, explosives, and clothing, exceeded 5 fr. (96 cents), while sixty-six industries paid between 3 and 4 fr. (58 and 77 cents), and five industries, less than 3 fr. (58 cents). Cabinet-makers averaged 4 fr. 20 (81 cents); wood-workers made from 3 fr. to 4 fr. 50 (58 to 89 cents);¹⁰¹ iron-workers about 4 fr. 10 (79 cents). In general the rates varied between 3 fr. 80 and 4 fr. 60 (73 and 89 cents) in the metallurgical industries,¹⁰² and between 3 fr. 90 and 5 fr. 50 (\$.75 and \$1.06) in the glass manufacture.¹⁰³

¹⁰⁰ For the period preceding 1891 see *La Population Française*, by E. Levasseur, vol. iii, p. 85 *et seq.*

¹⁰¹ The average rate for joiners, who made the highest wages, was 4 fr. 70 (91 cents), although many worked more than ten hours. The rate varied from 6 fr. 45 (\$1.24), the average for Seine-et-Marne, to 2 fr. 20 (42 cents) in Ille-et-Vilaine, where the pay was least.

¹⁰² The average for draughtsmen was 5 fr. 20 (\$1.00) for ten hours; for blacksmiths, 5 fr. .05 (97 cents). In iron foundries the wages varied from 5 fr. 40 (\$1.04) to 2 fr. 10 (40 cents); the laborers in this branch made from 3 fr. 10 to 3 fr. 90 (60 to 75 cents). The car-works at Lyons (*Syndicat des Industries de la Voiture*) pay 7 fr. (\$1.35) to blacksmiths and the *Association Métallurgique du Rhône*, 7 fr. 50 (\$1.45) to loaders and weighmen. This was the highest average outside of Paris. The labor-unions returned no rates higher than 6 fr. (\$1.16) except for rollers at Sedan (6 fr. 50, \$1.25) and molders at Nouzon (7 to 8 fr., \$1.35 to \$1.54).

¹⁰³ In the glass industry the average of the melters rose as high as 6 fr. 50 (\$1.25); laborers received 2 fr. 75 (53 cents).

In the same industry the rates were often twice as much in one Department as in another. In the manufacture of paper, for instance, the mean rate varied from 4 fr. 15 in the Department of Orne to 1 fr. 95 in the Côtes-du-Nord, without taking into account Seine-et-Oise and Seine-et-Marne where the rates, from 5 fr. to 5 fr. 25, were largely influenced by the proximity of Paris. In the cotton mills the rate was more uniform, but it varied from 5 fr. in Aisne to 2 fr. 40 in Mayenne.¹⁰⁴ Averaging the mean rates for the Department of the Seine with those of the other Departments, I would venture to assert upon the authority of these figures that in America wages are more than twice as high as in France.¹⁰⁵

It will not be without interest to extend the comparison by including a few figures from countries other than France and England. According to an investigation of the conditions of labor made by the *Ministère des Affaires Étrangères* of France in 1891 the average rate of wages in Germany is almost everywhere lower than in France, and it sensibly decreases as we go from western to eastern Germany. Thus the general average for adult workmen was found to be 1.77 marks in Rhenish Prussia, 1.59 in Hanover, 1.50 in Bran-

¹⁰⁴ See *Office du Travail: Salaires et Durée du Travail dans l'Industrie Française*, vols. i, ii, iii.

¹⁰⁵ The fourth volume of the above-mentioned investigation, *Résultats Généraux*, has been published since *L'Ouvrier Américain* was written. The investigation covered 2957 establishments and 674,000 persons. The average length of the effective working day was found to be between 10 and 11 hours, the average wages of working people, in private industries, without distinction of age or sex, 3 fr. 75 a day (72 cents). For adult male workmen the average was 4 fr. 20 (81 cents), for adult women 2 fr. 10 (42 cents). Between 1840-'45 and 1891-'93 the nominal wages of men rose a little less, and those of women a little more, than 100 per cent. An examination of prices showed that while rents had risen more than 100 per cent in the last 50 years, the cost of food and lodging together had increased only about 25 per cent. As nearly as can be expressed in round figures, wages have doubled, and the cost of living has increased one-quarter in France since 1845. *Op cit.*, pp. 24-28. [Tr.]

denburg, 1.17 in eastern Prussia, while in Silesia it was only 1.02. The cities naturally paid higher rates. Berlin held first rank with an average of 2 m. 40 (58 cents); Leipzig paid 2 m. 10; Munich 2 marks (49 cents).

In Spain, for a day of 10 or 10½ hours, skilled workmen in the building trades make 4 pesetas (77 cents) and laborers from 2 to 2.25 pesetas (37 to 43 cents) at Madrid. In this city the cost of living has been increasing in the last twenty years, in company with the population and the burden of the octrois. At Seville laborers also receive from 2 to 2.25 pesetas, but rents are lower than at Madrid. At Cordova the coal-miners make from 2.50 to 6 pesetas; at Valentia where wages have increased in the last fifteen years, blacksmiths make 4.50 and carpenters 3 pesetas. At Barcelona masons get 4 pesetas for 9 hours' work, laborers from 2 to 2.75; in the woolen mills spinners make 4.40 pesetas for 11 hours' work, laborers 3, ordinary weavers 2.75, and powerloom operatives 4.50 pesetas.¹⁰⁶

Russian wages, which vary greatly from place to place and from trade to trade, have been vaguely averaged at 10 kopeks per hour, nominally equivalent to about 8 cents but in reality worth only about 5½ cents.¹⁰⁷ In the cotton industry, according to M. Combes de Lestrade, spinners make from 8.50 to 9 rubles (\$4.40 to \$4.70 cents) per week in Poland and from 4 to 7.50 rubles at Moscow; weavers from 4 to 7 in Poland and from 2 to 3.80 at Moscow where wages are much lower than in Poland. The real average is probably below the level indicated by these figures, for the author in speaking about wages further on states that the annual earnings of the average weaver are about 175 rubles, and of the average spinner, about 158. These figures relate to the cotton industry; wages are higher in the woolen industry, and in the metallurgical industries higher still; wool weavers make 214 rubles and the average in steel-works is about

¹⁰⁶ *Les Salaires des Ouvriers en Espagne*, by André Barthe.

¹⁰⁷ These valuations are based upon the gold value of the paper ruble in 1896, 52 cents in American money. [Tr.]

524 rubles a year. The last quotation is equivalent to nearly \$1 a day. The workmen, or at least a majority of the factory-hands, live in a peculiar way, dwelling in large buildings which belong to the employers and grouped together in communities whose standard of comfort is low.¹⁰⁸ Among this people who have no traditional antipathy to personal service, domestics (male) receive from 20 to 25 kopeks a day; at Woronetz good servants receive 4 rubles, about \$2 a month. However, a manufacturer established in New England told me recently on his return from a trip through Russia, that in the factories in the Moscow district it took ten Russians to do the work of five American workmen.

In Australia,¹⁰⁹ as in the United States, the rate of wages

¹⁰⁸ See Combes de Lestrade: *La Russie Économique et Sociale*, chapters on wages and the cotton industry.

An interesting account of wages in Russia is found in Minister Breckenridge's report on money and prices in Russia, published in the series of *Special Consular Reports*, vol. xiii, pt. ii. Mr. Breckenridge quotes from the pay-rolls of the Petroffsky Oil Works Company of St. Petersburg, owned by the Boston firm W. Ropes and Company. The following rates had not been changed for 17 years: 4 foremen each received \$26 a month, 1 head fitter received \$39 a month; the average rate of the other 265 employees was about 55 cents a day. "All our regular staff," wrote Mr. Ropes, "are supplied with lodging, fuel, and light without making any deduction for these from wages. This has always been so since the commencement of our business in 1879. The rate of wages has also remained unchanged during the seventeen years. Wages have, of course, always been paid in paper currency, and no fluctuation in the value of this currency has made any change in the rate of wages," pp. 393, 394. [Tr.]

¹⁰⁹ Note the following quotations taken from the *Australian Handbook* for 1895. The rates are for Victoria in the year 1894: nurses, from £30 to £35 a year; cooks, from £40 to £75 with board and lodging; compositors 1 shilling per thousand; machine-compositors, from £2 10s. to £3 10s. per week; book-binders, from £2 16s. to £4 per week; watchmakers and jewelers, from £2 to £4 per week; blacksmiths, from 9s. to 10s. a day; house-painters, 5s. to 10s. a day; ship-carpenters, £5 to £8 a month; masons 7s. to 8s. a day; laborers, 5s. to 6s. a day; cabinet-makers, £2 to £3 10s. per week; tailors, £2 to £3 10s. per week, etc. In New Zealand: nurses, from 10s. to 15s. per week at Wellington and Canterbury, from 6s. to 12s. in other places; blacksmiths, from 7s. to 12s. per day; masons, 8s. to 14s.; painters, 6s. to 9s.; tailors, 7s. to 10s.; seamstresses, 3s. to 6s.; watchmakers, 8s. to 15s. [In the year 1897

is high, though not so high in the former as in the latter country.

In Mexico where the currency is silver the workmen took their pay in kind until a few years ago; at present almost all are paid in money. In the last twenty years there has been a slight increase in the wages of skilled workmen employed in new industries, but there has been no apparent change in the wages of ordinary laborers who make from 25 to 30 cents a day and in some places receive an additional ration of corn or beans. In the mines the rate rises as high as 70 and 80 cents but there workmen receive no food. The same is true of factory-hands who make from 18 to 37 cents a day; in some cases as high as 62 cents.¹¹⁰

From the remotest boundary of the East an Asiatic nation which has recently established exceptionally favorable relations with China is now making itself felt in the markets of the world and causing some uneasiness to the manufacturing nations of Europe and America by reason of the advantage it secures, in the international struggle for trade, from its low level of wages. Japan has recently been made the subject of a report by the Department of Labor at Washington, from which the following facts have been gleaned. In the factories the average daily wage was 20 cents, estimated in gold:¹¹¹ carpenters and masons received on an average about 30 cents; compositors 29 cents; pressmen 26 cents. The highest wages are received by stone-cutters and the tailors who make European styles of clothing, 35 and 49 cents respectively: among the least-paid are the weavers, who make about 15 cents on an average. At Yokohama

in New Zealand nurses made from 5s. to 10s. per week in Wellington and Canterbury, from 2½s. to 10s. in other districts; blacksmiths from 7s. to 10s. per day; masons from 8s. to 12s.; painters from 7s. to 10s.; tailors from 7s. to 10s.; seamstresses from 3s. to 6s.; and watchmakers from 7½s. to 12s. per day.]

¹¹⁰ For wages in Mexico and other countries see the *Special Consular Report*: "Money and Prices in Foreign Countries," 1896.

¹¹¹ The monetary unit of Japan is the *yen* which contains a little more silver than our silver dollar. The *yen* in this study is valued at 50 cents.

some of the wages are higher, but in the factories they are as a rule lower. An important tea-exporting house which employs a large personnel pays its most experienced workmen 21 cents, children 7 cents, and the average laborer 12 cents a day: these employees work from five in the morning to six o'clock at night, with three intermissions of thirty minutes each for meals. The Japanese are poor and live sparingly: they can save a little on a salary of ten cents a day. In the last few years there has been an increase in wages, one estimate placing it at 14 per cent between 1889 and 1894. But it is due principally to the depreciation of the silver currency, and prices, particularly of daily necessities, have risen more than wages. In the period noted rice rose 62 per cent and wheat 37 per cent in price. The fall in the value of money has been prejudicial to wage-earners.¹¹²

Not less sparingly live the Berbers, the Arabs, and the African blacks. Their wages are very low: in Tunis the colonists pay native laborers from 20 to 30 cents a day; in Dahomey the government pays negro laborers 1 fr. a day.

I shall not attempt to draw numerical comparisons from these figures, nor to classify the countries according to their rates of wages: the figures are too incomplete, too dissimilar, to justify a calculation of this kind. But they prove plainly the fact I wish to put in evidence: namely, that the sum of money which economists call the nominal wage is with some exceptions greater in the United States than in any country of Europe, and much greater than in France and Germany.

¹¹² In 1897 carpenters and masons received about 25 cents a day (49 and 55 *yen* respectively), compositors 18 cents, pressmen 18 cents. The highest rates recorded were those for tailors (European styles), bricklayers, and stone-cutters, who received 29, 28 and 27½ cents a day, respectively (58, 56 and 55 *yen*). The above rates are expressed in gold. A comparison based upon statistics of 51 trades and occupations shows that wages in Japan increased uniformly from 1894 to 1897, the average rate of increase being 37.8 per cent. Forty-five of the 47 prices listed in the same publication rose between 1896 and 1898. *Résumé Statistique de L'Empire Du Japon*, 1900, p. 29. [Tr.]

CHAPTER VII.

WAGES OF WOMEN AND CHILDREN



The employment of women.—There are many industries such as the building trades, glass manufactures, the metallurgical and mechanical industries, which are unsuited to women, and in consequence give employment to few or none. In forty occupations which I noted in the reports of the Eleventh Census, the total male employees outnumbered the total female employees about 52 to 1. In the quarries, for instance, there were practically no women employed.

On the other hand I found thirty-five important occupations in which the female employees outnumbered the male in the proportion of 2.2 to 1. In the first rank come the textile industries with 190,000 female employees.¹ The combined industries of clothing, shirts, collars, cuffs, and millinery hold second rank with 123,295 female employees; in the shirt-manufacture the male employees form only about one-fifth of the total number and in the manufacture of millinery, lace goods, paper boxes, etc., the proportion of men is very much smaller. These statistics moreover are incomplete, since establishments of less than ten persons are excluded, and in those occupations specially suited to women a large percentage of the establishments do not come within this limit.

The manufacture of cards for combing cotton and wool seems to have been the first industry in which American

¹ Including carpet-making. The male employees are in the majority in the woolen industry.

women found employment in large numbers; in 1784, for instance, one factory was said to have employed about 1200 hands, most of whom were women. With the invention of the spinning machine and the power-loom women were finally drawn into the textile factories. An English woman who visited America in 1840 wrote that she had found but seven trades open to women: teaching, needle-work, keeping boarders, work in the cotton-mills, type-setting, book-binding and domestic service. In reality other occupations were open to women at that time, but there is no doubt that the field for women has greatly enlarged and that it will continue to enlarge as machinery removes the necessity for muscular strength.

In 1850 the census returns showed 225,922 female employees fifteen years of age and over, and 731,137 male employees sixteen years of age and over; about 3.3 men to each woman. In 1860 the proportion was 3.7 to 1; in 1870, 4.9 to 1; in 1880, 3.8 to 1. The census of 1890 gave a total of 3,745,123 men, 846,614 women and 120,885 children employed in the mechanical and manufacturing industries as officers, firm members, clerks, and operatives by day and by piece, or 4.4 men for each woman. From 1850 to 1890 the number of women increased 270 per cent, and the number of men 412 per cent. From these figures one would not conclude that the women are supplanting the men.²

² Figures taken from the *Statistical Abstract* for 1895, and originally compiled by the division of manufactures of the Eleventh Census. The census statistics given under *Occupations* are somewhat different: in 1880, according to the latter authority, there were 2,783,459 males and 630,890 females engaged in manufacturing and mechanical industries; in 1890, 4,064,051 males and 1,027,242 females. According to this statement the male operatives increased about 46 per cent, and the female operatives about 63 per cent, during the decade. The census of 1890, *Report on the Manufacturing Industries*, furnishes the following information concerning the number of persons engaged in manufacturing and mechanical industries:

	Males, 16 years of age and over.	Females, 15 years of age and over.	Children and over.
Officers, firm members and clerks,	418,081	42,028	....
Operatives, skilled and unskilled,	2,881,795	505,712	104,522
Piecoworkers	445,247	297,974	16,363

A very careful but more restricted enumeration shows that in a number of textile mills in Lowell the male operatives numbered 1512, and the female operatives, 5051, in 1835; in 1893, the two classes numbered respectively 7691 and 13,158. As the statistics show, the women greatly outnumber the men, but the increase has been greater in the latter class. In 1835 the female operatives formed 79 per cent of the whole personnel, while in 1893, they formed but 63 per cent.

The evidence, however, is quite conflicting, as might be gathered from the discussion of this subject in the newspapers. In 1885 the chief of the Massachusetts labor bureau drew up a report on the employment of women in that State. Out of 301,000 female employees, 50 per cent were engaged in household service, 37 per cent in manufactures, and the remainder in a variety of other occupations.* The female employees formed 30 per cent of the whole female population of the State and 33 per cent of the whole population engaged in gainful occupations. Ten years before, in 1875, they represented only 21 per cent of the female population and 26.8 per cent of the whole body of wage-earners. According to this authority, then, they have increased not only in actual numbers but in proportion to the male wage-earners. It is, however, necessary to remember that do-

* *The Fifteenth Annual Report of the Massachusetts Bureau of Statistics of Labor*, 1884, contains a study on the work of women in Boston, which yields proportions somewhat different. Out of 1032 women who responded to the inquiries of the bureau, 83 were servants, 123 were employed in commercial houses, 826 in factories. Of this number 594 lived with their families, 271 in boarding houses or furnished rooms, the rest kept house or lived in private families; 917 were unmarried, the remainder were wives or widows; 603 were born in Massachusetts, 149 in other parts of the United States, 137 in Canada, and 146 in Europe.

A recent investigation in Michigan brought out the facts that of 13,436 workmen, 9108 lived with their families, 919 boarded in private families, 730 with their parents, 1066 had special lodgings; and only a very small percentage, 28, lived in "boarding houses." *Ninth Annual Report of the Bureau of Labor*, 1892, p. 153.

mestic servants have been included in this investigation and that Massachusetts is the home of the textile industries in which the male operatives are in a decided minority.⁴

The most of these women were young: 41 per cent were between 20 and 29 years of age and the number between 14 and 39 years was 78 per cent of the total number investigated.⁵ "The daughter," says Mr. Wadlin, "wishes to help her father and mother, to keep her brothers and sisters at school, to live better and dress better than she otherwise could, and to lay by some money for the proverbial rainy day, or to supply her part of the common fund when she decides to get married."⁶ The wife sometimes enters industry to support an invalid husband and, too often, a lazy or intemperate one, or to aid in the bringing up of a large family. The widow, thrown upon her own resources, and not wishing to become a burden upon others, works to support herself. In 1875, there were 73,527 widows in Massachusetts, or 8.57 per cent of the entire female population. In 1885, the number of widows reached 97,158, or 9.63 per cent of the female population."⁷

Inferiority of the wages of women.—Women's wages are

⁴ In England as well as in America there is a widespread opinion that the number of female employees has increased and that they are driving out the men. A comparison of the English censuses of 1881 and 1891 hardly confirms this opinion. Out of every 1000 female residents more than 10 years old, there were 340 wage-earners in 1881 and 344 in 1891. The increase is wholly within the ranks of unmarried women between the ages of 25 and 45 years; there was a diminution among married women and among those of advanced ages. See the Board of Trade Report by Miss Collet on *The Statistics of Employment of Women and Girls*, 1894, p. 72.

⁵ The Boston investigation noted in the preceding footnote revealed the fact that out of 1032 female wage-earners, 917 were unmarried, 70 married, 45 widows. The great majority were between 17 and 30 years of age and almost all of them had gone to work between the ages of 14 and 16 years.

⁶ As a rule she does not marry young; 25.5 years is the average age in Massachusetts.

⁷ "Women In Industry," *Report on the Statistics of Labor, Massachusetts*, 1889, p. 587.

lower than men's in every country, and though the difference is very marked in America it is seemingly no greater than in France and England: it is probably somewhat greater in Mexico. Being less robust than men, women are debarred from many occupations which require strength and endurance—itsself a certain form of skill—and these trades are just those in which the pay is highest. The sphere of activity open to women being thus restricted, competition between them is more intense and their labor consequently commands an inferior price. This is a truth of general application though probably less applicable to the United States and England^{*} than to France and Switzerland. In the first two countries married women ordinarily make no attempt to get work outside of their own homes and the market, in consequence, is not so well stocked.

In her report on the *Statistics of Employment of Women and Girls* (p. 71), Miss Collet says: "The industrial position of women varies with the degree of material prosperity of the men in the class to which they belong. The wives and daughters of men of small producing and earning power have at all times been obliged to be breadwinners. As men's earning power increases, it becomes possible for the family to be supported by the husband's earnings, and the greater comfort thus obtained in the home creates a general feeling that the wife at least should abandon breadwinning. With increasing prosperity and a rising standard of comfort the services of the daughters can also be retained

^{*} The Royal Commission on Labour advanced as explanations of this inferiority, the general competition for needle-work arising from the fact that practically all women know how to sew; the special conveniences of home-work; the unfavorable reaction of the demand for home-work upon the wages of factory labor; the fact that most married or unmarried women receive some measure of support from others—and this simply makes the position of those women who are dependent upon themselves, the more painful; the character and isolated condition of women which does not permit them to form unions as easily as the men. *Fifth and Final Report: "The Employment of Women,"* p. 91.

in the home. In England during the last hundred years the great increase in productive power through the introduction of machinery, has largely increased the number of men able to support their daughters while the need for the services of the latter at home has decreased. In the middle class, therefore, a high standard of comfort, a smaller field for domestic usefulness, a diminished probability of marriage, apprehension with regard to the future, have all combined to encourage the entrance into the labour market of middle-class girls."

The American workingwoman usually lives with her family and whether she does her work at home or at a factory is apt to consider her earnings as an extraordinary increment rather than a regular part of the family income. This is another reason why women are less exacting in the matter of wages. Working girls, who are more numerous than married women in the factories,* often keep all they

* A general confirmation of this fact is found in the following statistics taken from the *Seventh Annual Report of the Commissioner of Labor*, vol. ii, p. 1588, *et seq.*

FAMILIES.

STATES.	COTTON INDUSTRY.				WOOLEN INDUSTRY.			
	Number investigated.	With income from			Number investigated.	With income from		
		Husbands.	Wives.	Children.		Husbands.	Wives.	Children.
Connecticut.....	150	134	30	85	146	128	20	85
Georgia.....	199	133	43	124	..	..	..	..
Maine.....	164	164	34	51	111	110	26	16
Maryland.....	164	163	5	82	..	..	..	..
Massachusetts..	400	399	105	138	..	..	..	..
New York.....	187	169	13	122	214	202	17	84
Pennsylvania....	213	181	7	127	213	200	9	57
Great Britain....	341	340	45	147	131	130	13	75
Germany.....	72	70	9	35	24	22	12	4
Switzerland.....	52	45	26	25	..	..	..	..
France.....	116	99	45	41	179	174	40	84

make, though in the poorer families their earnings, no doubt, go to support the rest of the household. The more prudent manage to save something, but the great majority spend their wages on fine clothes and in having a good time.

A great amount of statistical evidence might be quoted from the reports of the labor bureaus in support of the facts noted in the preceding paragraph and in the appended footnote. I cite only the *New Jersey Report* for 1888, p. 448, which shows that out of 292 workingwomen interrogated, only 53 were married. In the *Fifteenth Annual Report of the Massachusetts Bureau*, p. 92, the complaint is made that girls accept inadequate wages because they live with their parents and have scarcely any necessary expenses.

Another cause of the inferiority of women's wages is the fact that up to the present time workingwomen have not organized like the men, although there is an increasing number of exceptions to this rule.¹⁰ The wages of domestic servants are high, but women of American parentage are averse to engaging in this work.

It cannot be said that the ratio between the wages of men and women is exactly equal to the ratio between the productivity of the labor of the two sexes. As a matter of fact the women produce very nearly as much as the men in those occupations in which they compete, although their pay is very much smaller. In piece-work, however, they are usually paid according to the same scale and if their weekly earnings are less in such employments—weaving may be cited as an illustration—it is because they do less work.

In certain occupations in which they can be substituted

¹⁰ The American Federation of Labor warmly encourages the formation of workingwomen's unions and has even sent out female missionaries to preach organization. In Cincinnati a few years ago there were several flourishing women's unions in the boot and shoe and the cigar-making industries. See *Fourth Annual Report of the Commissioner of Labor*, Washington, p. 17.

for men, women are employed not only because their wages are lower, but because they are more tractable and seldom strike. "If they [women] are really worth so much to you," was asked of an employer who preferred female employees, "why can't you give better pay? What chance has a girl to save anything, unless she lives at home?" "We give as high pay as anybody," he answered, "and we don't give more because for every girl here there are a dozen waiting to take her place."¹¹

Wages of women in large cities.—The *Fourth Annual Report of the Commissioner of Labor* of the United States is devoted to an investigation of the work of women in twenty-two large cities. The lowest average wage, that for Atlanta, was \$4 a week, and the highest, that for San Francisco, \$6.91 the mean in New York was \$5.85; the general average of the twenty-two cities, \$5.24. These figures may appear too low, but an explanation is found in the fact that they do not represent the weekly rates paid by employers, but one fifty-second part of the annual earnings, which on account of lost time is not equal to the weekly wages. To quote the actual figures, 373 made less than \$100 a year, and the average number of days lost by members of this group was 86.5. More than one-third of the women reporting (5024 out of 13,822) earned from \$200 to \$300, the average number of days lost being about 35. The 398 who made from \$450 to \$500 lost 18.8 days on an average, while those who earned more than \$500 lost only 14.8 days. It thus seems that the amount of time lost is in inverse proportion to the amount of wages. The highest rates were paid in New York, one-fifth of those reporting from that city earned more than \$400 a year, while in Boston only one-seventh earned more than \$400, and in Philadelphia only one-tenth. The above statistics apply to the year 1887. From earlier figures published in preceding reports of the labor-bureaus it may be inferred that since

¹¹ Helen Campbell, *Prisoners of Poverty*, p. 175.

1880 a slight increase has taken place in the wages of women.¹³

It is unnecessary to reproduce here the 337 occupations from which the data for this study were secured. In fourteen occupations the average exceeded \$365 (\$1 a day throughout the year) and in thirty, it was less than \$183, i. e. fifty cents a day. In the former class are found manufactures of curtains, tapestry, feather bedding and upholstery fabrics, dentistry, glove, hosiery, and novelty stores, etc. But the differences arise rather from the amount of time lost than from the kind of occupation. In the latter group several industries are found in which on an average each employee lost more than 100 days a year.

The representative American workingwoman is young: about twenty-two years and seven months of age. When she is fifteen and a half she starts to work and at eighteen finds herself in the most numerous age-group. Above twenty-five years the groups rapidly decrease in size until we reach the thirty-five-year group in which only seven per cent are included. "Working girls," as they are properly called in America, do not remain in the stores or factories more than five years, as a rule. In the *Fourth Report of the Commissioner of Labor* the opinion is expressed that their chances of marriage are increased by the fact of their employment. "A woman who is willing to work honestly and faithfully, even at low wages, that she may be able to support herself, has certainly a better chance of securing a home suited to her station in life than the one who prefers to be supported by her friends. The observations of the agents of the Department certainly indicate that such is the case, but it cannot be stated as a statistical fact." Nineteen-twentieths of the workingwomen investigated were either widows or unmarried.¹⁴ As I have al-

¹³ This, however, is not the opinion expressed by the seamstresses of Boston in 1894 before the commission on the subject of the unemployed.

¹⁴ 1038 widows, 745 married, and 15,387 unmarried, in a total of

17,427.
*These apply to 1887

ready remarked, the married women do not take work outside of their homes.

In Chicago, in 1893, saleswomen made from \$4 to \$25 a week, although the latter rate was rare; \$8 a week would probably be a little below the average rate, I was told. In any event the average would be superior to that given in the report upon workingwomen in large cities. In Boston the wages of seamstresses vary greatly according to individual skill and the nature of the work. In establishments of the first rank, in 1894, good operatives made from \$6 to \$12 a week, some as high as \$15, but the work lasted only nine months in the year. In establishments of the second rank the pay ranged from \$5 to \$8. Among ordinary seamstresses the competition is very great and the wages very low. Work on underwear which yields some operatives as high as \$8 and \$9 a week, pays many others not more than \$3 a week.

The head of a large commercial house in New York, whom I consulted, expressed the opinion that the figures of the commissioner of labor were too low in general, his reason being that the women who reported would be inclined to underestimate rather than to exaggerate their earnings. He estimated that the average earnings of shop girls in New York were between \$6 and \$10 per week of 54 hours, 10 hours through the week and 4 hours on Saturday. He added that the best saleswomen made much more.

In fact I could cite a large dressmaking establishment in New York in which several of the employees make as high as \$2000 a year—a rate that is paid in several establishments in Paris as well. Other observations made in New York agree with the testimony just quoted. Stock girls make from \$5 to \$7; saleswomen from \$7 to \$10; typewriters from \$8 to \$15, a week. Information which I gathered relating to several small manufactures of fancy-goods in New York showed that the weekly wages of ordinary

hands on artificial flowers and feathers was from \$6 to \$10; the best hands made as high as \$12 and \$15. These two occupations are followed by the same women, as the dull seasons of the two alternate.

About the time of the World's Fair an account of the condition of workingwomen in the shops and factories of Philadelphia employing ten or more persons, appeared from the pen of Mary A. O'Reilly,¹⁴ a factory inspector. The study covered 166,325 persons; 75,744 men, 74,949 women, and 15,632 children. In Philadelphia female inspectors have authority only over those factories in which some women are employed. In such factories, then, there are practically as many women as men. Miss O'Reilly believes that this has not always been the case and that many occupations have been opened to women in the last twenty years. In many branches, such as spinning and weaving, manufacture of millinery, underwear, fancy goods, perfumery, parasols, buttons, etc., the women outnumber the men, largely because the needle is the chief tool and no great strength is required. Wages in these industries range from \$2 to \$25 a week, but the minimum rate is that of young beginners, while the higher rate is paid only to a few modistes who are out of work nearly six months of the year. In the textile industries (cotton, wool, silk, carpet and hosiery) the wages sometimes rise as high as \$12, \$15, \$20 a week, but these rates are exceptional; the great majority make from \$5 to \$8, the average being very close to \$6. Miss O'Reilly has no complaint to make of this rate which she believes superior to that of other large cities; in her opinion it is sufficient for a woman who does not have to support a family. Women's wages in Philadelphia, she asserts, are high compared with those paid in other cities east of the Mississippi.¹⁵ It is to be noted, however, that this study does not cover women who work at their homes

¹⁴ *Women Wage Earners of the City and County of Philadelphia.*

¹⁵ *Women Wage Earners*, p. 10.

or establishments employing less than ten persons, and in these groups wages are below the average.

Wages in Michigan.—The chief of the Bureau of Labor of Michigan has given a less favorable account. At Detroit in 1892, according to his calculation, female employees made from \$2.53 to \$7.20 a week in the boot and shoe manufacture; from \$2.34 to \$4.67 at book-binding; from \$2.42 to \$12 in the tobacco factories; from \$3.50 to \$4.89 in the candy manufacture; from \$3 to \$3.50 in the clothing manufacture; from \$1.58 to \$11.67 in the manufacture of novelty goods. The general averages were 75 cents a day, \$4.65 a week, and \$219 a year. Nine cities had a daily average higher than Detroit, the highest being that of Pontiac, \$1.02. Five had a lower average, the minimum being 59 cents, at Wyandotte. The general averages for the State of Michigan were 79 cents a day, \$4.81 a week, and \$202 a year.

Ninety per cent of the 13,139 workingwomen reporting were unmarried, between sixteen and twenty-six years of age, and lived with their families. In some cases they worked 16 or 17 hours a day, but for the great majority the working-day was from 8 to 10 hours long. Almost every one lost some time, but for seventy-five per cent of those interrogated this loss did not exceed four weeks.¹⁸

Wages in large manufactures.—A Canadian physician in Nashua who is well acquainted with the conditions of the working people of that town, told me that the women who worked in the factories earned on an average from \$5 to \$6.50 a week. In a large manufactory of boots and shoes in that city I found that the rate was somewhat higher, from \$1.50 to \$2 a day, and from \$9 to \$10 a week. I add a few other examples which are a little more useful.

In the silk factories of New Jersey it is probable that half the female employees are unmarried; except among

¹⁸ Quoted in the *Fourth Biennial Report of the State of Colorado, 1893-1894*, p. 53 *et seq.*

weavers, a majority of whom are men, the average age is scarcely twenty-five years. In the winding department, where women only are employed, the weekly earnings average about \$7; for packing and quilling the wages are much less, but weavers and warpers make \$8 and \$9 a week (average of male and female operatives). Piecing, which is usually done by married women at their homes in connection with their household work, pays from \$7 to \$8 a week. Twenty years ago wages were much higher in the silk manufacture, but in the last fifteen years they have been greatly reduced by competition, although some statistics indicate that an opposite movement has taken place. But the scale seems to have undergone practically no change since 1882, or at least if rates per piece have been reduced, improved machinery has compensated for the diminution.

In a large tobacco factory in St. Louis the strippers who worked by the piece made from \$5 to \$10 a week; \$6 on an average. In the pressing room where the hands are recruited from the strippers and rank a grade higher, time-workers were paid as high as \$8 a week and piece-workers \$12 a week. The average as shown by the pay-roll, however, was only \$7, and cigar-makers were paid about the same. In other groups the hands did not make more than half of this amount.

The women employed in a large manufactory of tinware in Long Island made from 60 cents to \$1 a day.¹⁷ In an important book-bindery in New York the female employees made on an average 15 cents an hour, say \$1.35 for a nine-hour day; the average weekly rate was about \$6.50, and the work was by piece. At Schenectady, New York, in a manufactory of electrical appliances, the women employed at winding wire could make from \$1 to \$1.75 a day working by piece.

Wages in small manufactures.—One or two examples may

¹⁷ The *New Jersey Report* for the year 1888 gives a series of weekly wages which vary from \$9 to \$4.20.

be taken from the smaller establishments. A New York dressmaker who employed 12 girls, paid out each week from \$63 to \$75, or in the long run, about \$6.30 for each employee. The working-day lasted from eight in the morning until six in the evening, with three-quarters of an hour for lunch. The scale of wages varied from \$11 to \$2.50 a week: the minimum was received by a girl of 14 years. From a report prepared by the Bureau of Labor of California it seems that in 1890 dressmakers earned about \$6 on an average, with a maximum of \$16.50 and a minimum of \$2; cutters \$6, maximum \$20, minimum \$2; shirt-makers \$6, maximum \$10, minimum \$2; pressers and milliners made less.¹⁸

The International Union of Typographers, into which women have been admitted since 1869, has adopted the rule that male and female printers shall receive exactly the same rates. This rule has been of less benefit to the women than might be supposed. There are many women in the printing trade, but most of them are found in non-union shops and here they receive a third or a half less than the men. In 1892 there were 700 female printers in Boston alone and the investigation made by Mr. Wadlin in 1891 showed that there were 1611 in the whole State of Massachusetts. The statistics in this report show plainly the inferiority of women's wages. Only 13 per cent of the female printers were found in the group of those making more than \$10 a week, as against 55 per cent of the male printers: 41 per cent of the women made less than \$8.

At the general assembly of typographers in 1893 an attempt was made to remedy this inconvenience by introducing an amendment authorizing a lower rate for women, but the motion was rejected.¹⁹

Wages by States.—From the returns of the census of 1890 one may calculate the average wages, or more exactly, the

¹⁸ See *Fifth Report, California*, p. 222.

¹⁹ *Fourth Biennial Report . . . Minnesota*, p. 182.

average annual earnings by States. Mr. North has calculated the following averages for female employees in the cotton and woolen industries:

STATES.	AVERAGE WEEKLY EARNINGS OF WOMEN.	
	Cotton industry.	Woolen industry.
Massachusetts.....	\$5 89	\$6 03
Maine	5 68	5 98
New Hampshire	5 83	6 11
Connecticut.....	5 69	6 43
Rhode Island.....	5 70	6 20
New York	5 28	5 91
New Jersey	6 25	4 98
Pennsylvania.....	6 42	6 30
Georgia.....	4 55	4 78
North Carolina.....	3 21	5 66
South Carolina.....	3 90	....

In almost every instance the employees of the woolen industry are a little better paid and as usual the southern rates are a little behind those of New England.²⁰ \$1 a day may be fairly taken as the average earnings of female operatives in these two industries.

Classification of wage-earners.—In 1891 Mr. Wadlin instituted a very extensive investigation of wages in Massachusetts, in which out of the 379,328 wage-earners enumerated in the census, 174,766 workmen and 73,434 workingwomen were examined. 62.4 per cent of the latter group were engaged in fourteen occupations, among which spinning and weaving (cotton, wool, and silk) held the first rank, with 37,127 operatives. The clothing and boot and shoe industries held second rank. The classification prepared by Mr. Wadlin is as follows:

²⁰ It is stated in the *Fourth Annual Report of the Commissioner of Labor*, p. 14, that in Atlanta "northern women imported for dress-making or millinery receive more than double the pay of the native-born." In Charleston only colored women are seen in the factories. Among the whites the feeling is very strong that women should not engage in this kind of work.

Weekly wages.	Per ct. of workingwomen.
Less than \$5	34.6
From \$5 to \$6.....	20.0
“ 6 to 7.....	18.3
“ 7 to 8.....	10.8
“ 8 to 9.....	6.0
“ 9 to 10.....	4.3
“ 10 to 12.....	3.2
“ 12 to 15.....	1.8
“ 15 to 20.....	0.6
Over 20.....	0.4
	<hr/> 100.0 ²¹

Thus a third of the workingwomen reporting made less than \$5; a little less than two-fifths made from \$5 to \$7; the remainder, 24.3 per cent, made from \$7 to \$20. But only a very small number, 2.8 per cent, made more than \$12, while among the workmen a majority, 59.8 per cent, were grouped between \$9 and \$20, the concentration being greatest between \$12 and \$15.

In the cotton industry, one of the least remunerative for the employees, 49.7 per cent of the female operatives made less than \$5 and only one-fifth made more than \$9 a week. In the manufactures of soap, rope, and ink the pay was still less; 62, 71, and 75 per cent respectively of the employees of these industries made less than \$5. The manufactures of games and toys were among those industries in which

²¹ This scale is lower than the one given by Mr. Wadlin in the *Statistics of Manufactures*, 1891, p. 261. The latter classification, which I append, covers the whole United States.

Less than \$5.....	26.8
From \$5 to \$6.....	18.3
“ 6 to 7.....	18.7
“ 7 to 8.....	13.6
“ 8 to 9.....	9.2
“ 9 to 10.....	6.0
“ 10 to 12.....	4.4
“ 12 to 15.....	2.2
“ 15 to 20.....	0.7
Over 20	0.1
	<hr/> 100.0

the wages of women were relatively high; 35 per cent made more than \$15.

Inadequate wages.—In America as in Europe there are pessimists who paint in sombre colors the situation of those women who have to live on their own wages. They usually see but one side of the picture, it is true, but it is necessary to consider that side: it is only too real. No accurate idea of the American workingwoman can be gained until side by side with the woman who lives at ease upon her husband's earnings, and the young girl who lives with her parents and spends her modest earnings upon personal pleasures and luxuries, we place the poignant sufferings of the women who have only their needles with which to support their families. It is the great cities rather than the country in which this spectacle is seen, and in no city more frequently perhaps than New York, where the extremes of poverty and wealth exist side by side.²² I shall speak of this sad phenomenon in another chapter.²³ At this point I confine myself to a simple citation from a report of the Bureau of Labor of the United States: *The Slums of Great Cities*. Out of each 100 workingwomen in 1894, there were 34 in Chicago, 43 in Philadelphia, 54 in New York, and 60 in Baltimore who earned less than \$5 a week.²⁴

Domestic service.—One cannot write of the wages of women without saying a few words upon domestic service, which after all is the calling most frequently followed by women. According to the census of 1890, of female persons ten years of age and over engaged in gainful occupations 42.6 per cent were engaged in domestic and personal service,²⁵ 26.3 per cent in manufacturing and mechanical in-

²² In the east side and the lower part of the city especially, the greatest poverty is found. "The nearer the river, the nearer to hell," they say.

²³ See *L'Ouvrier Américain*, part i, chap. vii.

²⁴ Page 65.

²⁵ It is in this group that the proportion of females is largest: females 38.25 per cent, males 61.75 per cent. In the other groups, the figures indicating the percentage of females are as follows: 20.17, 7.53, 33.01, 6.85. *Abstracts of the Eleventh Census*, pp. 76, 77.

dustries, 17.4 per cent in agriculture, fisheries and mining, 7.9 per cent in professional service, and 5.8 per cent in trade and transportation. It is true that the 1,667,698 females reported as engaged in domestic and personal service followed very different occupations, but the servants numbered 1,216,639.²⁸

Servants receive higher wages in America than in Europe and it may be stated without qualification that they do less work. However they cook and do general housework, wash, iron, take care of children and usually make the bread. But they are seldom willing to do any other than the particular work for which they are engaged, and they demand, and usually receive, a half-day's holiday on Sunday and on Wednesday or Thursday. In Philadelphia an ordinary servant (white) receives from \$3 to \$3.50 a week and it grows more and more difficult to get them at this price. In New York they make from \$15 to \$20 a month. I was told in New York that the *sou pour livre* was unknown, the only extra fees being a few presents from the shopkeepers.

The wages in Chicago are \$4 a week; during the exposition they often rose as high as \$5, with one afternoon's holiday a week. In Denver the wages ascertained by an investigation ranged from \$1.75 a week for small nurse-girls to \$25 a month for cooks. The latter rate was not rare, but in a few instances the rate was as low as \$15: \$20 was nearer the average. The ordinary rate in California as given in the *Report of the Commissioner of Labor of California* for 1892 was from \$20 to \$25 a month for cooks, \$15 to \$20 for second-class servants, \$12 to \$20 for chambermaids. In the South the number of colored women willing to accept household service makes the wages low; at Rome, Ga., for

²⁸ There were only 238,152 men enumerated in the group of "servants," of which 86,089 were classified as "housekeepers and stewards," 41,396 as "nurses and midwives," 32,593 as "boarding and lodging house keepers."

instance, colored servants were paid from \$7 to \$10 in 1883, the latter rate being paid in the hotels.

A young American woman who was asked why she preferred the poor and irregular wages of factory work to those paid for domestic service, replied: "It's freedom that we want when the day's work is done. I know some nice girls, . . . that make more money and dress better and everything for being in service. But they're never sure of one minute that's their own when they're in the house. . . . I couldn't stand that a day." "Women are always harder on women than men are," said a fur-sewer. "I got tired of always sitting, and took a place as chambermaid. The work was all right and the wages good, but I'll tell you what I couldn't stand. The cook and the waitress were just common, uneducated Irish, and I had to room with one and stand the personal habits of both, and the way they did at table took all my appetite. I couldn't eat and began to run down; and at last I gave notice. . . ." The following sentiments were expressed by an Irish-American: "We came to this country to better ourselves, and it's not bettering to have anybody ordering you round. . . . I tell every girl I know, 'Whatever you do, don't go into service.'"

A girl who worked at a stationer's had given up household service at the end of a year because of the lonesomeness: "except to give orders they had nothing to do with me," she said. Another objected that nurses have to stand on their feet from six in the morning till ten at night, and then are accused of laziness if they sit down for a moment. A young teacher who had "lived out," resigned her place because she was expected to wear a cap and apron. Another said "We were poor at home, and four of us worked in the mill, but I had a little room all of my own, even if it didn't hold much. In that splendid big house the servants' room was over the kitchen—hot and close in summer, and cold in winter, and four beds in it. We five had to live there

together, with only two bureaus and a bit of a closet, and one washstand for all."

The author who collected this testimony²⁷ expressed the opinion that the character of domestic service has radically changed in the last fifty years, that there is no occupation at present which covers so much licentiousness. "It is this state of things which makes many mothers say: 'My girl shall never run such risks. I'll keep her from them as long as I can.'" The Americans do not like to expose their moral infirmities, and I shall not dwell upon them. I ought even to point out that the author wished to prove that certain classes of women "are prisoners of poverty," and chose her illustrations accordingly.

Several of the objections against domestic service expressed in the above testimony would be less readily understood in France, and in themselves they have little weight. Every kind of work or service has its obligations and discomforts. The substance of all of them is contained in the simple statement that American women dislike the calling both on account of its duties and the general standing of servants in public opinion. Most girls who take up a trade expect to work at it only until they have found a husband and the young workman would much rather have a working girl for his fiancée than a household servant. "Caste prejudice," we say, but prejudices of this kind are powerful forces in all classes of society and the one of which we have been speaking prevents many a girl from going out to service.

It is necessary perhaps to tone down a little the statement of the dislike of Americans for domestic service. According to the census of 1880, 819,651 of the 1,075,655 servants enumerated were born in the United States,²⁸ and in Massachusetts in 1885, 62.3 per cent of the female servants

²⁷ Helen Campbell, *Prisoners of Poverty*, 1887, pp. 221-232.

²⁸ 122,194 born in Ireland, 43,444 in Germany, 19,477 in Great Britain, 22,050 in English colonies, 29,762 in other countries.

were born in the United States. But workmen whom I consulted in regard to this matter thought that most of the native-born domestics were the children of immigrants.

Wages of children.—In the United States children employed as aids or helpers are always paid, and in most cases, the same is true of apprentices. I have described the pay of apprentices in certain establishments, in the chapter on men's wages. In the mechanical industries apprentices usually receive 70 cents a day during the first year, 80 cents the second, 90 the third, and \$1 the fourth.²⁹ Horseshoers' apprentices begin at 50 cents a day. In the manufacture of artificial flowers and feathers apprentices make from \$1.50 to \$4 a week while regular hands make from \$6 to \$9.

In 1888 an investigation was made in New Jersey covering 22,478 workmen, of which 2626 were children. The weekly wages of the children varied between \$3.50 and \$5.95, that of the men from \$8.17 to \$16.72, that of the women from \$4.20 to \$9.³⁰ From these returns it seems that the wages of children are almost two-thirds as much as the wages of women and less than one-half those of men. In Rhode Island, in 1891, the average weekly wages of children ranged from \$2.45 (girls employed in the silk mills) to \$3.83 (in printing houses).³¹ In Pennsylvania an investigation covering apprentices in thirty-five trades showed that during the first year the pay varied from \$1.75 to \$4 a week, in the second year from \$2 to \$5, in the third from \$2 to \$6, in the fourth year from \$2 to \$9.

Comparison with other countries.—As in the case of men's wages so with those of women; there is no general average; we must be content with approximations. In America it can be shown that a very great majority of the adult female wage-earners make from \$5 to \$7 a week. We may then say in a general way that women are paid about half as

²⁹ See Report . . . Minnesota, 1894, p. 261.

³⁰ Eleventh Annual Report . . . New Jersey, 1888, p. 309.

³¹ Fifth Annual Report . . . Rhode Island, 1892, p. 181.

much as men, although this exact proportion will not hold in every industry in which men and women perform the same kind of work.

Women receive less in England, as is shown in the proceedings of investigation conducted by the Board of Trade in 1886. It was shown in this investigation that on an average women made about 12s. 8d. (say \$3.10) in the factories. One quarter of those enumerated received less than 10s., about one-half received from 10s. to 15s., and a small number, engaged principally in the manufacture of cotton goods, made more than 20s. It was in this industry, in direct contradiction to the state of affairs in America, that the general average of women's wages (15s. 3d.) was the highest. It was lowest in the mining (metals) industries (5s. 10d.). Sir R. Giffen concludes that in general the wages of women are not much more than half those of men. The wages of children were very much less: about 7s. for young girls and 9s. 2d. for boys.²²

The following scale which is quoted by Miss Collet in her report in 1894 was originally prepared under the direction of the Board of Trade.

WAGES OF WOMEN IN THE TEXTILE INDUSTRIES.

Wages per week.	Cotton, Lancashire and Cheshire.	Wool, Lancashire and York.	Wool of England.	Wool, Yorkshire.
Less than 10s.	10.7	10.6	45.3	36.6
From 10s. to 15s.	44.9	64.	54.7	62.8
“ 15s. to 20s.	32.	25.3	...	0.6
“ 20s. to 25s.	12.1	0.1	...	...
More than 25s.	0.3	...	...	...

In France, according to the statistics of the *Office du Travail* (1891), women make 3 fr. (60 cents) a day on an average in the Department of the Seine and 2 fr. 10 in the rest of France. Taking the State industries into account we may say that the general average for the whole of France is about 2 fr. 35 a day, or 14 francs a week. This is about

²² *Abstract of Labor Statistics*, 1894, p. 82 et seq.

one-half the average rate received by male workmen. Omitting gem-cutting in which the average rises to 5 fr. 15, it is in the textile industries that women's wages are highest—2 fr. 45 in the spinning mills and the carpet factories. On the other hand the average sinks as low as 1 fr. 30 in the manufacture of certain preparations for painting. The average earnings of dressmakers in cities range from 1 fr. (La Rochelle) to 4 fr. (Versailles); nurses make from 75 centimes to 2 fr. a day.

In the book-binderies of Paris women working on the *éditions de luxe* average 5 fr. 80, but the rate descends to 1 fr. 60 in the fertilizer factories. Great variations are found among the different departments: in printing houses, for instance, women average 3 fr. 55 at Paris, 3 fr. 45 in the Department of the Loire, 1 fr. 15 in that of the Mayenne.³³

³³ See *Office du Travail: Salaires et Durée du Travail dans l'Industrie Française*, vol. i, ii, iii.

CHAPTER VIII.

FACTORS DETERMINING NOMINAL WAGES



Preliminary.—We must be careful not to confuse the gain or profit of an undertaking with wages—the price received by a person in return for his services. In this chapter I shall speak of wages only, and before considering what regulates wages, it will be advisable to answer the preliminary question: Is it true that the wage-system is a mere transitional form of the organization of labor and is destined to disappear? If so, it would be idle to study it at length; we should be better occupied in considering its successor.

Slavery, serfdom, the wage-system: this is the succession which certain schools think they perceive in history, and from it they argue that the last system will have a successor too. Socialists from the time of Saint-Simon and Fourier have denounced the wage-system as a form of slavery, and in their apocalyptic dreams have caught sight of a fourth phase of civilization, one of whose conditions will be the freedom of labor and the complete or partial suppression of private property. This is a conviction based upon faith rather than upon observation. Those who really have the faith are simply deluded. Those who lack the faith and yet declaim against the wage-system must be held guilty of fomenting social strife and of diverting the laborer from the practical means of improving his condition. In general socialistic schools profess this doctrine more or less openly. The two great American federations of labor incline towards

it in theory, but in practice and while the present wage-system remains an established fact, they endeavor to increase the gain and the leisure of the wage-earner.¹

The truth is that there has always been a class of wage-earners, even at the period in which the laboring class consisted chiefly of slaves. The system may thus be said to be inherent in human society; its development has taken place *pari passu* with that of individual liberty, or what is the same thing, it has been contemporaneous with the progress of industry; and it will remain one of the necessary forms of social organization so long as liberty endures. As M. Beauregard has so well said: "The wage-contract inheres in the very nature of things, and it will remain, of necessity, the contract *par excellence*, the principal form of the distribution of wealth. It is a mistake to turn the laborer against it by illusory promises."² The contract is not only legitimate in principle, but in most cases it is beneficial to the two contracting parties and indispensable to the cooperation of the factors of production.

The management of any form of business is a difficult and delicate task at which many fail and for which not everyone is adapted. State operation of industry would by no means do away with the wage-system, and the present tendency towards industrial concentration, far from conducing to the extinction of the wage-earning class, is increasing the number of wage-earners in proportion to the number of employers. The office of the employer, then, is not only one which exists by right as an outcome of the freedom of labor, but it is an economic necessity, whether it be exercised by the directors of corporations or by individuals acting in private capacities. Instead of disappearing, it tends

¹ In the *American Federationist* (March, 1896) I read of "the system of economical brigandage known as the wage-system." I prefer the philosophy embodied in Bastiat's social harmony, and his derivation of the wage-system from the necessity of association and insurance against risk.

² *Essai sur la Théorie du Salaire*, p. 408.

to become more important, if not with respect to the number of employers, at least with respect to the number of workmen they direct.

An organization of labor such as the Saint-Simonians projected would make the wage-system universal instead of destroying it, while it would guarantee the wage-earner neither the right of discussion nor the choice of occupation. And all the communistic plans which have been proposed, with the exception of those which abandon all organization and frankly accept anarchy, would lead to the same goal. Such would have been the result of Fourier's system, for instance, had it been applied in all its rigor. Only one form of association—productive cooperation—of which I shall speak later, would really take the place of the wage-system. In certain cases, as I have explained several times, this is a very praiseworthy and desirable form of organization, but at present it is within the reach of only a small number of workmen. And it should be added that the cooperative societies themselves employ a form of wage-payment, which the more intelligent theoretical advocates of cooperation in France now endeavor to prove is wise.

Bastiat, presenting only the favorable side of the wage-contract, held it up as a form of cooperation advantageous to the entrepreneur who is thereby enabled to produce more, advantageous to society which profits by the increased production, and advantageous to the laborer who would make less if he worked alone on his own account. The reason given for the last statement is that the workman would not accept employment unless he expected to gain by it, but the alternative suggested is undoubtedly a fiction; in reality the laborer has no choice. It contains, however, a certain amount of truth.

Under his direction the employer must have collaborators, and the number of these in any given enterprise increases as the industry becomes more concentrated. And the plain tendency of industry, I repeat, is towards concentration.

The services of these collaborators are paid for from time to time at prices fixed in advance, and the wage-payment is a much more regular and convenient form of remuneration than a share in the ultimate profits, the arrangement that would ordinarily be adopted in a system of co-operation. It is more equitable also than distribution at the arbitrary pleasure of one of the factors, a method followed in certain industrial communities. We must bend our energies, not to the quixotic task of abolishing the wage-system, but to the discovery and application of methods by which the wage-system may be employed to the better advantage of both those who sell and those who purchase human labor. In pursuit of practical aims such as these, American workmen have justly demanded the weekly payment of wages, and have exercised their right of association by forming unions whose common object is the improvement of the present conditions of labor.

We may denote by the comprehensive term *services* all those returns made by wage-earners for the wages they receive. When services take the form of "productive labor"—which is ordinarily the case with the workman—they contribute to the creation of a fund of riches which is the result of the collaboration of the entrepreneur, the capitalist, and the laborer; or to be more exact, the result of the directive labor of the entrepreneur and the directed and salaried labor of the employee, the two conjoined making capital effective.

In general the entrepreneur conceives and directs the work, the laborer executes it with tools and materials supplied by the entrepreneur, and the latter in turn delivers or sells the product. It is upon this selling value that the remuneration of each factor is determined, and by a distribution of this value that each receives the share which is allotted to it either before or after the sale. The proportion of each is not the same in all cases and it is not invariable: each factor must look out for itself in the distribution of the product. Whether the laborer gets a fair share, then, depends largely upon himself, upon the skill and fidelity he

displays in his work, and upon the manner in which he utilizes his rights in the drawing up of the wage-contract.

Not all services are applied to the direct production of wealth. The wage-contract by which one party furnishes his money in return for the time and labor of another, is entered into not only by laborers, but by all kinds of employees, officials, domestics, etc. The labor of many such employees does not ordinarily result in a tangible, material product, and it is very necessary to recognize that in these cases, wages cannot be measured by the value of the product.

By a singular misconception of facts the socialistic schools which proceed from Proudhon and Karl Marx lay down the principle that labor creates the whole value of the product. On the strength of this theory they condemn the wage-system because it allots to the laborer only a part of the value of the product, and ordinarily allows interest on capital and profits to the entrepreneur. But their analysis of production and their theory of value will not bear close examination and the pseudo-principle they deduce from them is in contradiction both to economic science and common sense. Moreover they have great difficulty in adjusting their theory to those services which do not result in a material product. Their condemnation will not destroy the wage-system.

The wage-system is not a transitory phenomenon in free societies, and we have every reason to believe that under the influence of machinery and concentration the proportion of wage-earners will go on increasing, as it increased in Europe and particularly in France by the suppression of the craft-gilds. There is place, then, after the recital of the facts concerning the condition of the American laborer in the preceding chapters, for a study of the causes which determine the rate of wages.

In the present chapter I shall treat of nominal wages only, the payment in money or kind which the wage-earner receives. I shall speak only incidentally of real wages, *i. e.*

the quantity of necessities, conveniences and luxuries which the nominal wage will purchase. The latter aspect of the question will be treated after I have described the laborer's mode of living.³

The causes of nominal wages which I am going to consider are of varying importance and more or less interrelated. As I am dealing with the American workman I have confined myself practically to the doctrines and opinions current in America. They are, in the order of treatment, as follows: custom and institutions, supply and demand, cost of living, competition, industrial capital or the wages fund, the general state of wealth, the intensity of consumption.

Custom.—In any district or any industrial establishment wages at a given time are fairly well fixed and most workmen and employers do not inquire beyond this simple fact: they accept the customary rates. In many instances it is this existing or customary rate which determines the assemblage of workmen or the construction of a proposed factory at a given place. Custom, then, has a great influence in fixing the rate of wages, although it may be objected that custom explains nothing, that there is no fact corresponding to the word. Every phenomenon has its cause and the customary rate, like other rates, is doubtless regulated by the general law of wages. But the very fact that a specific rate does obtain at any point, proves the existence of a certain inertia which is often great enough to preserve the rate intact long after the strictly economic conditions which produced it have disappeared. This is why custom must be numbered among the causes which determine wages.⁴ *Cus-*

³ See ch. ix. [The chapters on the laborer's mode of living have not been translated, and may be found in the second part of *L'Ouvrier Américain*.]

⁴ It is something akin to what Miss Collet calls "an unconscious trades-union" that fixes the natural minimum which each member of a social class is willing to receive, and which, by strengthening the laborer in his demand for this minimum, diminishes the resistance of employers. "The visible trades-union is impossible." Miss Collet says, "unless this unconscious trades-union already exists."

tom acts as a preservative agent, and if wages are more stable than prices, it is to custom, at least in part, that this relative fixity is due.

The influence of custom is universal, although it is less potent among the higher than among the lower classes of labor, and in countries in which the people are free and educated than in those where the opposite conditions prevail. Where the laboring class is qualified by organization and intelligence to take care of its own interests, tradition loses its force and the interaction of supply and demand becomes of increasing importance in the regulation of wages. Custom may also be modified or solidified by law or administrative measures. When the public authorities establish maximum rates, as Charles XI and the Convention of France did, they modify the prices and natural movement of labor; and when they publish official tariffs of prices, as was done by the city of Paris, they exert a modifying influence which up to a certain point is effective. When by education or a rise of wages, the extension of the suffrage or the progress of democracy the laboring-class rises to higher political and social levels, the wage-earner becomes less humble, less resigned, and finds in himself or in organization an increased vigor whereby to exert an influence upon the wage-contract.

The democratic spirit of the American people has assisted materially in preserving the custom of high wages. The testimony of de Tocqueville upon this point, given some sixty years ago before the development of the labor union, is still worthy of citation: "I think that, upon the whole, it may be asserted that a slow and gradual rise of wages is one of the general laws of democratic communities. In proportion as social conditions become more equal, wages rise; and as wages are higher, social conditions become

See *The Quarterly Journal of Economics*, April, 1891, p. 367. John Stuart Mill emphasized the influence of custom, and Émile Chevalier devoted to it a chapter of his work *Les Salaires au XIX^e Siècle*.

more equal. . . . In the constant struggle for wages which is going on between these two classes, their strength is divided, and success alternates from one to the other.”⁸

Wage-scales.—The wage-scale might be called a conventional or written custom, but when there is enough harmony between employers and employees to secure the adoption of one, the scale becomes more binding than simple custom because it constitutes a contract which is in force for an extended period of time. The term is not ordinarily longer than six months or a year in the United States, as the American does not care to relinquish his freedom of choice for a long period. The scale may be individual or collective, that is to say, between a workman and his employer or between an association of employers and an association of workmen. The collective scale, which is common in America and particularly in the building and metallurgical industries, presupposes a strong organization of labor. Wages regulated by scale are more variable and more rigidly conformable to the value of the product than those regulated by custom.

The scale should be beneficial to both parties. To illustrate: in an industry which pays \$2 a day and the workmen make 10 articles daily, the employer may offer 18 cents per article and the workmen accept, making under the piece-system 12 articles a day and earning \$2.16, while the employer reduces the cost of production 2 cents per unit. This is what takes place ordinarily. But the workmen fear that competition among themselves will finally lead to reductions of the rate per piece which will bring the daily wage down to \$1.80 or less: this is the path that leads to the sweating system. The scale may be fixed or movable, the latter species being known as the sliding-scale. In the sliding-scale a certain standard piece-rate is taken as the base, corresponding to a certain average price of the pro-

⁸ *Democracy in America*, Bowen's edition, third book, ch. vii, pp. 230, 231.

duct, and the piece-rate increases or decreases as the price goes up or down. The sliding-scale is only practicable where the product is sufficiently simple, and its price well understood in the open market. The unions also fear that the final result of the sliding-scale will lower wages, as it destroys much of the employer's interest in maintaining high prices. "What would have happened," they say, "if wages had been rigidly regulated by the price of steel or calico?"

Supply and demand.—Here we have the efficient cause and the supreme law of value, the law which fixes the rate of wages as it fixes the prices of commodities. Most economists since Adam Smith have expounded it more or less clearly. But the socialists and some economists contemptuously dismiss it as a truism, though thereby they but demonstrate their inability to comprehend it. It is indeed true that the phrase means little in itself; we must show the conditions which regulate supply and demand, which establish different classes of wages and maintain differences between them. For the law embraces and sums up all the causes we are considering: productivity which puts a commercial value upon a laborer and stimulates the demand for his labor; competition of laborers which increases the supply as the competition of employers increases the demand; the cost of living which curtails the supply when the demand-price is inadequate; the abundance of capital which swells the demand; the consumption of commodities which acts in a similar way when it is active; the improvement of machinery which first deadens, then strengthens, the demand, if the diminution of price sufficiently stimulates consumption; immigration which augments the supply; education which closes the gap between the different classes of labor and which in the end may affect unfavorably the highest classes of wage-earners; labor-organizations which may enhance wages by concentrating the supply, as associations of employers may concentrate the demand.

Productivity.—Among these special causes the productivity of labor must certainly be placed in the first rank.

The wage-system is a method of distribution by which the laborer receives a share of the value of the good in whose production he collaborates, which share is fixed in advance by an anticipation of the probable value of the product. It is plain that the labor which creates no value produces no fund from which wages may be paid, and that the person who would reward such labor would end in bankruptcy. It is just as evident, on the other hand, that where the laborer adds some value by increasing the quantity or improving the quality of the product, there we have the material for a remuneration to which the laborer is entitled. Wages, said President Walker, are determined by production; they are paid out of the product of industry and are equal to the value of the product minus interest and profits. That wages are a "residue"—what is left of the product after interest and profits have been deducted—is a very doubtful proposition; in reality wages form part of the expenses of production. | |

But whether wages be a residual, or on the contrary, an anticipated share, it is essential that the laborer should know and maintain his rights, for the entrepreneur will not voluntarily offer him all that he can obtain. "If the wage laborer," says General Walker in another place, "does not pursue his interest, he loses his interest."⁴

In piece-work the connection between wages and production is more apparent than in day-labor. The chairman of the committee which investigated the Homestead strike asked the director of the Carnegie works upon what basis he fixed the maximum and minimum rates of wages. "Upon the selling prices of our goods," the director answered. He might have added that every variation of prices could not have been reflected in wages and that the fixation, preceding both production and sale, must necessarily have been an approximate one.

Productivity is the principal cause of the wide range of

⁴ *The Wages Question*, ch. x.

wages, from those of the apprentice to those of the foreman in the same shop, from the wages of the navvy to those of the sculptor. The proof of this is seen in the practice some employers have of offering certain extra compensation, premiums on production, on sales, on extra diligence, or economy in the use of material; the incentive to profit-sharing is also found in its effect upon productivity. On the other hand we have the fine or forfeit in piece-work, but this virtually transforms the wage-earner into an entrepreneur.

The causes of productivity are of two kinds: causes impersonal to the wage-earner, on the one hand, such as the organization of plant and machinery; on the other hand, those individual qualities or personal causes which Fourier has called collectively *le talent*, but which most economists know by the word "capacity." The former are predominant in a large textile factory for instance, where the workman is a sort of machine. The latter are predominant in a bank cashier or a bronze-worker.

Following General Walker a number of American economists, notably Mr. Jacob Schoenhof,⁷ have defended the productivity theory as the supreme law of wages. The erection into a principle of the proposition that wages measure productivity is very pleasing to the self-love of the Americans. They argue that since wages are higher in the United States than in other countries, the American laborer is the most skillful and the American nation the most productive in the world.

Mr. Atkinson finally adopts the same explanation as General Walker—productivity—but in his words: "Wages are held to be a consequence—a result—a remainder over after capital has received such profit as will have induced it to undertake the work; *the rate of wages cannot therefore be*

⁷ "A high rate of wages expresses a high rate of productiveness, and its converse a high consuming power." *The Economy of High Wages*, p. 63.

considered a true measure of the cost of production. Wages are a consequent result, and their measure or rate is, and must be, determined, in the long run, by what the product will bring, and not by what the capitalist may either promise or be willing to pay for a given time." Further on the author justly says: "Low wages are not essential to a low cost of production, but on the contrary usually indicate a high cost of production. . . ."⁸

The American laborer is a hard worker, without doubt. It is just as true that the American entrepreneur, who pays high wages because it is the custom, provides him with the best tools and equips the factory in which he works with the most powerful and economic machinery. But the entrepreneur is eager for profit and after having provided the best equipment possible, gets all he can from man and machine.⁹

In his *Elements of Political Economy* Professor Laughlin adopts Mill's doctrine of the wage-fund in an amended form, and accepts the general productivity of labor as the determining cause of high or low wages. He adds, very justly, that wages oscillate above or below this level up to the moment in which the demand and supply of labor fix accurately the point of understanding between the employer and the employee.¹⁰

Before the publication of President Walker's book on wages, several European economists, particularly Thornton in his book *On Labour*, had spoken of the influence of productivity. Leroy-Beaulieu, who had emphasized its importance in his *Travail des Femmes au XIX. Siècle*, also lays claim in his *Traité Théorique et Pratique d'Économie Politique* to part parentage of this doctrine. I, myself, have always

⁸ Edward Atkinson, *The Distribution of Products*, pp. 53, 63.

⁹ Even at piece-work the rapid workman is cheaper than the slow one in industries in which costly machinery is required. The cost of production is less with fast workman because the interest on capital per unit of product is less. Cf. Marshall, *Principles of Economics*, third edition, p. 628.

¹⁰ Vol. ii, pp. 268 and 280.

placed productivity in the first rank among the causes of wages. Twenty-five years ago I taught the doctrine at the *Conservatoire des Arts et Métiers* and in my *Précis d'Économie Politique* wrote that between labor and its product—both are commodities¹¹—there exists an essential difference, which consists of the fact that the product tends to sell for what it costs while labor tends to sell for what it is worth. In other words the price of the product tends to fall under the influence of competition, as the cost of production decreases, while within certain limits wages tend to rise in proportion to the productivity of the laborer.¹²

Under the title "the economic paradox," it has even been my custom to demonstrate in my lectures how manufacturers could pay more for their labor and raw material, sell their products cheaper, and at the same time make more profit than they are now doing. All that is necessary is machinery powerful enough to produce much more per unit of time with the same labor force. It is a simple illustration of the productivity of labor.¹³

But I have always been careful to add that we cannot regard the productivity theory as the only law of wages, or indeed as a law without exception. Domestics, for instance, are paid higher wages in America than in Europe, and yet they do less work. In both continents they do less work and receive higher wages now than they did fifty years ago.

Nor can it be held that in all times and industries the

¹¹ This word applied to labor wounds the sensibility of certain publicists who, without understanding its usage, prefer to be vague and sentimental rather than scientific in their use of terms.

¹² Mr. Hewitt expressed almost the same idea in his speech delivered upon accepting the presidency of the American Institute of Mining Engineers, in 1890. He speaks of "the law which Edward Atkinson discovered, and which he and Robert Gifford have demonstrated, to wit: That labor is receiving a steadily increasing share of a steadily increasing product; and that capital is receiving a steadily diminishing share of an increasing product, still insuring for it an adequate remuneration" Many others have expressed the same idea; it has been current among economists for a long time.

¹³ *Précis d'Économie Politique*, p. 35.

wage of the laborer increases in proportion to the value he produces. As the product is finally sold we may admit that the laborer receives a share of the selling price. But what share? Certainly not one which bears an invariable ratio to interest or to profits. Moreover, the value of the product is uncertain, it is not always commensurate with the quantity of the product. Production, therefore, cannot be taken as the measure of wages.

The mule-spinner who spins ten thousand times as much yarn as her great-grandmother did with the spinning-wheel, receives more pay than her great-grandmother received, but not ten thousand times as much. When an entrepreneur sets up a cotton mill he does not say: a hundred years ago a woman could spin 5 hanks of yarn a day on the spinning-wheel; the workman who minds two self-acting mules can spin 55,000 hanks to-day: I will give him and his two helpers ten thousand times as much as they used to receive. What he really does is to ascertain the customary rate of wages in the locality, calculate what his product will probably be with the machinery he has, and estimate what this product will bring on the open market. Then if he decides that he can manufacture at a profit, he offers the customary wages, confident that workmen will respond. If he believes that his machinery is superior enough to enable him to produce at a lower cost than his competitors, he may offer a little more than the ordinary rate in order to attract the best workmen. In this way wages rise as productivity increases. But the increase of wages is not necessarily proportional to the increase of product.

As a matter of fact the wages of spinners have risen in the last fifty years. But the value of yarn has fallen in a much greater ratio and it is the consumer who has received the greatest benefit. It is well to remember, however, that the laboring class forms a most important part of the body of consumers. It is now more than thirty years since I first attempted to clear up this economic phenomenon in a published lecture on the *Rôle of Intelligence in Production*.

At the time when few laborers understood the working of machines, good mechanics made higher wages than at present, when this species of skill is common, yet they do as much work as they ever did. The reason is that an increase in the productivity of labor affects wages in several ways. At first it usually increases both wages and profits, because better results are secured with the same amount of effort and there is a larger income to divide. But under the influence of competition prices soon fall and wages and profits are reduced to the ordinary level. Wages, however, are seldom reduced to the point from which they started.

The productivity of machinery (which is one cause, in fact the principal cause, of the productivity of labor) also affects wages in diverse ways. If before the invention of the machine the commodity was difficult to manufacture, it was necessary to employ skilled labor at relatively high wages. If the machine makes the work easy, ordinary laborers can be substituted for the skilled workmen, and average wages fall in the occupation in question. This process has often been noticed in the United States; in nearly all manufactures in which new machinery has been introduced or the old machinery greatly improved, the workmen complain with more or less justice against the displacement of the laborer by machinery; it is one of the grave questions raised by the progress of invention. It may happen then, in America as in Europe, that the wages of the laborer decrease while the quality of what he produces improves, and its quantity increases. We have cited at least a few instances in which the facts are contrary to the law that wages bear a fixed ratio to the product.

We may cite one or two other illustrations which go to prove that even the value realized by the sale of the product is not a reliable measure of the rate of wages. The prices of farm products have sensibly decreased in the United States since 1879, the year in which the European demand for cereals was so heavy: the average price of wheat, for

instance, was 54 cents in 1893 as against \$1.10 in 1879. Taking the prices of 1872 as standard, represented by 100, Mr. Powers has calculated that the prices of vegetable and animal products in the Mississippi valley would be represented by 124 in 1879 and 106 in 1891-94; and in the North Atlantic and Central States by 96 in 1879 and 83 in 1891-94. In 1892 the farmer received much less for the same quantity of products than in 1879, although he paid his hands, on an average of the whole United States, \$16.42 a month in 1879 and \$16.80 a month in 1892. Some other cause than increased productivity must be found to explain this rise in wages. In certain industries, to choose another kind of example, men have been replaced by women who do the same work for less wages. Here again productivity fails as a measure of wages.

A study of the facts, then, discredits the absolute theory that would make this cause the sole regulator of wages.¹⁴ Yet it may confidently be repeated that productivity is one of the principal causes of the high wages which characterize America. As I have shown by numerous examples, idling is almost unknown in American shops and factories; the laborer works energetically, and the machinery, while it enables him to produce more than the laborer of any other country, England excepted, requires of him more attention and greater activity.

Two important consequences follow which should be clearly noted. First, there is no fixed relation between the rate of wages and the cost of production. Second, the cost of production and the selling price—the important

¹⁴ Among the American theories is that of Henry George: "Wages depend upon the margin of production, or upon the produce which labor can obtain at the highest point of natural productiveness open to it without the payment of rent." I mention this in a footnote because it cannot be advanced as a determinative cause of wages in civilized countries. For a criticism of its validity I may refer the reader to the chapter on "Henry George's Theory" in Mr. Gunton's *Wealth and Progress*. See also *L'Ouvrier Américain*, pt. iii, ch. vii.

fact for the consumer—are not necessarily proportional, and although under a régime of free competition the two tend to approach, the actual divergence has a very wide range.

Wages constitute one element in the expenses of production. In those industries in which the products are made chiefly by hand, they form the predominant element; this explains why the cost of building, for instance, has increased so much in the United States. But in the industries in which machinery, or in general, in the industries in which capital is more important than labor, wages and the cost of production often display opposite tendencies; wages may rise as the value of the product falls. This divergence, well illustrated in the textile industries, constitutes that "economic paradox" which is one of the happiest consequences of industrial progress.

Only one other aspect of this question can be noticed here: does the product of the laborer furnish a just measure of the remuneration due him? The common laborer who with pick and shovel removes 1000 cubic feet of earth in a day, toils far harder and accomplishes much less than the man who runs a steam-dredge. Can the dredger, who suffers less fatigue and is not necessarily more intelligent or more industrious than the laborer, rightfully demand a greater wage than the laborer? He may obtain, and it is desirable that he should obtain, a higher wage; but he is not robbed if he fails to obtain it. As all the superiority lies in the machine, equity would demand that the surplus should revert to the man who really created it, the inventor. This is what actually happens, in part at least, immediately after the invention of the machine. But when the invention has become common property, this surplus falls to the general treasury of industrial art and the whole world profits by the fall of price. And this is the "rôle of intelligence in production."

Cost of living.—The cost of living, which I shall treat at

greater length in the second part of this work,¹⁵ is another cause of prime importance in the determination of wages. The workingman's family has but one fund to live upon—that secured from labor—but there is an immense difference in the livings secured by different laborers and it is plain that the cost of living is without limits, either inferior or superior.¹⁶ From the cost of living of the steel-roller who makes \$10 a day, down to that of the sweat-shop tailor who is reduced to \$1 or less, there is a long series descending from affluence to misery. "The American lives on all sorts of wages," a laborer of French extraction said to me.

The Hindu carpenter or mason who makes 8 annas (less than 25 cents) a day,¹⁷ or the Japanese workmen who average about 20 or 25 cents a day do not live of course like the New York mason who receives \$4 a day.

There does exist in each stage of wealth and civilization a kind of minimum wage, but it is very difficult to express by a concrete sum of money either what it is or what it should be. It would be impossible to frame a general law on this subject. Local custom, based upon the prevailing state of wealth, affords the best indication of what it is.

Mr. Gunton has given a clear account of the theory which makes the standard of living "the economic law of wages."¹⁸ By the standard of living, or to be more exact, by "the socially accepted standard of living," Mr. Gunton understands the ordinary state of material comfort and social refinement which is required in the social class to which one belongs.¹⁹ With great ingenuity and completeness he assimilates labor to ordinary commodities, and after having shown that com-

¹⁵ See *L'Ouvrier Américain*, pt. ii.

¹⁶ See F. A. Walker, *The Wages Question*, ch. vii, "Necessary Wages."

¹⁷ Estimating the silver at its par value. The carpenters working on the canals in Arissa received from 5 to 7 annas a day in 1892. In other places they received on an average 15 rupees (less than \$7.50) a month. See *Prices and Wages in India*, Calcutta, 1893.

¹⁸ *Wealth and Progress*, p. 96.

¹⁹ *Wealth and Progress*, p. 88.

petition forces the price of a commodity down to the cost of production of the most expensive portion necessary for consumption, he concludes that the price of labor also tends to approach the cost of maintenance, not of an isolated laborer, but of the most expensive family whose labor is required in production. Mr. Gunton adds as a corollary that the so-called "iron law" is a fallacy because in every class of labor it is those who live best and not those who live cheapest, who, by their cost of maintenance, determine the rate of wages. It is the Ricardian theory of rent applied to wages. Those families whose cost is highest are always on the border-line of want, but those whose cost is lower enjoy a surplus.

The author of this theory thinks that it, and it only, explains the differences among the wages of the Hindu, the German, and the American, the city workman and the farm laborer. The theory really throws a good deal of light upon one side of the problem, but is it the cost of living which makes the wages of the farm laborer greater in summer than in winter, when his need is greatest?

Basing their argument upon certain statements of Ricardo and other economists who hold that wages tend to sink to the minimum of existence, the laborers of the United States, as a class, accept the "standard of living"²⁰ as the true determinative cause of wages. Demand, they argue, determines production; and as the wage-earning class, because of its numbers, is the most important factor in demand, high wages form the most powerful stimulus that can be applied

²⁰ As Mr. Gunton clearly explains (*Wealth and Progress*, p. 96), there is a sharp distinction between "cost of living" and "standard of living." The standard consists of the sum of commodities or the quantum of satisfaction procured by the representative person or group of persons of any social class. The cost is the total price of this quantum of satisfaction. If prices fall, the cost of living decreases without having any effect upon the standard of living. *Vice versa*, the standard may change without affecting the cost. There are also other differences. See *L'Ouvrier Américain*, pt. ii, ch. vi.

to industry. Large consumption in the families of the working people, necessitates high wages and in consequence is a cause of general prosperity. "Wages have been and will be regulated by existing conditions of living, and whatever tends to raise 'the standard of decency and comfort' will inevitably affect the standard of wages. Therefore,"²¹ the great problem is not so much to increase production in an overstocked market as to increase consumption and thus enlarge the demand."²² In these words one of the mouth-pieces of the American Federation of Labor, Mr. Lemuel Danryid, expresses himself in a pamphlet designed for the instruction of working people.

Another of their pamphleteers propounds the question: "Why does a wage-worker receive more where the cost or standard of living is high than he does in a place where the cost or standard is low?" He answers:

"Because in one place the cost or standard is high and in the other it is low. This is the great law. The standard of living affects wages. It is true that in some places and at times wages are advanced beyond the standard of living, but such an advance is necessarily brief in duration, and proves the rule by wages soon falling to the standard of life, but if the standard of life reaches to the level of wages the wages remain fixed.

"Question.—What affects the standard of life?

"Answer.—As a rule, in all countries and in all times the demand for higher or more wages is consequent upon the increased

²¹ "As wages are governed by the standard of living, and the standard of living is governed by the social wants of the laborer . . ." reasons a third publicist, Mr. George Gunton, in *The Economic and Social Importance of the Eight-Hour Movement* (Publication of the American Federation of Labor, *Eight-Hour Series*, No. 2), p. 11. In his book *Wealth and Progress* (p. 6), Mr. Gunton attributes to Ira Steward the first enunciation of the theory that the standard of living is the basis of wages. "Accordingly, while the central thought presented in this book belongs to Ira Steward, its development and presentation is the work of the present writer. By the central thought, I mean the idea that the standard of living is the basis of wages and that social opportunity or more leisure for the masses, as expressed in *less hours of labor*, is the natural means for increasing wages and promoting progress."

²² *History and Philosophy of the Eight-Hour Movement* (*Eight-Hour Series*, No. 3), p. 9.

pressure of new wants created. If a man has learned to read and is surrounded by reading men he will want to read, and will demand such wages as will enable him to satisfy this want. If there was no such day as the Sabbath or rest-day, and all wage-workers were employed the seven days of the week, not only would wages not be advanced, but they would be reduced, because the present wants of Sunday would be lost. . . .

"Hovel life gives hovel wages; tenement-house life gives tenement-house wages; shabby clothes give shabby wages; good clothes, good eating, good homes mean good wages; you cannot have the best till you want the best."²⁸

In support of his argument the author cites garbled extracts from economists whom he believes share his opinions, and it is a fact, moreover, that there are distinguished American economists who profess this doctrine. The author concludes this popular catechism by saying that the most powerful human incentive is the desire of men to improve their conditions; that organization is the surest means of accomplishing this end; that leisure creates wants, hence men must secure leisure; that time is money, hence the laborer should make every effort to obtain the most money for his time or at least to give the least possible time for the money he receives.

The reason why women so often sell their labor for less than it is worth, the labor party maintain, is because they usually do not have to support themselves entirely by their own earnings. This is partly true, and the argument is very specious because of this fact. But the general theory is based upon an incomplete survey of the facts. As with those economists who make productivity the sole regulator of wages, so with the labor party: their theory is much too rigid.

The labor party abuses the doctrine of the cost of living by trying to prove that the laborer is paid in proportion to his need, whatever that may be, and that to obtain higher wages he must increase his wants. The socialists, such as

²⁸ Geo. E. McNeill, *The Eight-Hour Primer* (*Eight-Hour Series*, No. 1), pp. 11, 12.

Lasalle and Marx, abuse the doctrine in an opposite way, by asserting that wages have an inevitable tendency to descend to the lowest possible minimum cost of living. It is this perversion of the doctrine that the labor party calls the "iron law of wages."

The real law is less rigid than both parties suppose. Economic science, fortified by facts, explains the antinomy by showing that the minimum is not a fixed plane but a shifting level which varies considerably as the state of civilization changes. And at present the American minimum is at a very high level.

The standard of life, that sum of wants which it is customary to satisfy, exercises an undoubted influence upon wages, but in the direction of maintaining, not in the direction of elevating, them. Nor is this standard to be fixed at the arbitrary pleasure of its beneficiaries; it is originally an effect, not a cause of wages, and it continues to be more an effect than a cause.²⁴ As effect, it is determined by the general state of wealth and the productivity of labor in the country in question: it is a direct result of the rate of wages itself, the laborer conforming his mode of living to his income. As cause, it prevents the laborer from accepting under ordinary circumstances a rate of wages lower than that customarily paid in his trade, because this rate corresponds to the mode of living of people in his walk of life.

Expenditure follows income. A New York compositor would be in sore straits if he had to regulate his expenditures according to the income of a cotton weaver at Nashua. Both in France and America the needs and the cost of living of the laborer have changed since the eighteenth century. When the wages of workingmen have once risen and their wants and satisfaction have become adjusted to a higher plane, it is exceedingly painful for them, as for other

²⁴ "It is evident," says Leroy-Beaulieu, "that the resources of the workman determine his style of living, and not the style of living his resources." *Traité Théorique et Pratique d'Économie Politique*, ii, 261.

people, to accommodate themselves to a lower plane; they make every effort to avoid the change. This gives rise to one species of the strike which I have illustrated several times.

Custom, acting as a preservative agent, may maintain the level for a time. Nevertheless, as it is better to eke out a bare existence than not to exist at all, the workman after having made what resistance he can with the assistance of custom, ends by yielding to the pressure of necessity. When an industry deserts a place, for instance, the workmen often have no choice but to emigrate or starve.

I quote an instructive anecdote upon this point from the Blair Report:

"In 1842," said a witness from Massachusetts, "the mills had to stop. Mine was a small mill, but it will perhaps illustrate what others had to do as well as any illustration that I can give. I found that I could not run the mill and hold my own. I had not capital enough to run through and afford to lose anything. I sent to my help and asked them whether, if I could manage to run the mill through the winter, they would be willing to work for less wages, and they said no. One man said he had a family of five or six children, and he said he would take his family to the poor-house before he would work for less. I said very well, I would not run the mill. I shut it up and went home, myself and my wife, and stayed there through the winter with my father.

"In the spring I went back and found that these people had been idle through the winter. I went into the mill building and lit a fire and the smoke began to curl up and go off through the chimney, and it was seen throughout the neighborhood, and they all came flocking to the mill to inquire if I were going to start. Among the others who came to make that inquiry was the man who said he wouldn't work for less than his own price. When he said, 'Are you going to start?' I said, 'I don't know.' 'For God's sake,' he said, 'start this mill and give us just what you can afford to pay for our work.' Said he, 'I have had no work through the winter, except occasionally a job at chopping wood at 50 cents a cord, and I couldn't do more than one cord a day, and with that 50 cents I have got Indian meal to feed my family on.' I said to him, 'I told you last fall it would be hard for you, and you said you would rather go to the poor-house.' 'Well,' said he, 'I was mistaken, and I am willing to go to work now.' When help find that they cannot do any better, and learn that they have to go to work for a certain price or get nothing, they will go to work."²⁵

²⁵ *Labor and Capital*, iii, 289.

Competition.—The competition among laborers for work, and that among employers for workmen, must be placed among the most important elements in the determination of wages: properly speaking they constitute the demand and supply of which we have spoken. In this connection American workmen labor under a peculiar disadvantage: that of immigration. Every year from 200,000 to 600,000 immigrants arrive, swelling the supply of labor and creating a competition which is unusually disagreeable because the immigrants come from countries where wages are low, and consequently have an inferior standard of life. They constitute a reservoir of cheap labor which is never exhausted because it is continually being replenished.

The effect of immigration is particularly felt in the Eastern States, where the immigrants disembark. This is certainly one reason, though not the only one, why wages are higher in the West than in the wealthy manufacturing States of the East. American workmen feel it keenly. Hence the hatred and exclusion of the Chinese, the universal distrust manifested towards Italians and Russian Jews, the efforts of the labor party to restrict immigration by law, and the support given to this policy by the Populist party.

Of the laws which restrict immigration, some are justifiable from the standpoint of ethics, others are to be condemned in the name of liberty. It is true that the tariff takes but scant account of the principle of liberty, and that the laws which exclude wheat or cloth with the purpose of increasing the rent of the landlord or of swelling the profits of the entrepreneur, are less excusable than those which turn back the immigrant to protect the welfare of the native laborer. But no law of this nature is inspired by the feeling of equity. They are dictated by a preponderant political influence or by the selfish interests of a majority.

Labor is, in general, more mobile in America than in France. When the laborer has a chance of obtaining better wages in another place, he moves there, changing his resi-

dence and even his trade with great facility. This mobility is certainly a great advantage as it tends to make wages equivalent in all parts of the country. General Walker held that it not only tended to equalize wages, but that it served to elevate the general level.²⁰ I share the opinion that it helps to maintain the level, as it tends to drain off an excess of labor from points where a superabundance would otherwise depress wages.

In the opinion of the American laborer there is another form of competition to be met: that arising from machinery. The machine is a competitor without doubt. When it enters the factory there is a practical certainty that several workmen will go out and that they will have no chance of returning until consumption has been sufficiently increased. American laborers are in consequence very apprehensive, the employment of machinery being so widespread there. But we have seen that the machine is an ally as well as a competitor, inasmuch as it increases the productivity of labor. The American laborer, though somewhat uneasy about the matter, recognizes that the machine is necessary.

Another opposing force is found in the concentration of industry which facilitates concerted action and diminishes competition among employers. Professor Marshall has called attention to the fact that labor is now bought in gross, instead of at retail, as it used to be. Formerly there was a multitude of small manufactures in which the masters were almost as numerous as the workmen. But in the large manufactures of the present the employer commands a much greater labor force, and finds it much easier to dictate conditions. We have seen how rapidly concentration is progressing in the United States.

The workmen endeavor to counteract this influence with that of their unions. These unions concentrate and restrain the supply of labor by uniting a multitude of isolated competitors in a body which acts as a unit in the labor market.

²⁰ See *The Wages Question*, pt. i, ch. iv and x.

In America these organizations perform their offices openly; they are contrary neither to law nor to general opinion. The courts have not penalized striking *per se* for many years; they punish only specific acts of violence. As moderation in the use of one's own rights and respect for the rights of others are difficult to maintain in a state of freedom, industrial disputes of great violence occur in the United States. In certain branches of industry, the building trades for instance, the workmen have become masters of the situation to a large degree and often dictate terms to the employers, the result being an increased cost of building. In the manufactures on the other hand, the employers are strong enough to control the union workmen and in some instances to debar them altogether, or at least, to refuse to treat with the unions.

An investigation of the results accomplished in Europe and America during the last fifteen years leaves the student convinced that the labor-organization has become a power in the industrial world, and that by strikes or amicable agreements this power—which is largely the result of union—has exercised a notable influence in elevating and maintaining wages and upon other conditions of the wage-contract. In those industries in which they have become an important factor, the unions have succeeded in modifying somewhat the distribution of wealth, but they do not increase the sum total of wealth. On the contrary their disturbances may retard production. Moreover it is not necessary to believe all the publicists of the labor party tell us about the omnipotence of the labor-union. Wages may go up without the slightest action on their part, as is clearly shown in the movement of the wages of domestic servants and farm laborers.

The union can make wages high and maintain them only by increasing the productivity of labor and the general wealth of the country. If their strikes, which constitute an attack upon this wealth, increase in numbers and animosity,

they will drive capital into hiding and discourage the spirit of enterprise. In this event, wages must fall. It does not seem probable, however, that these conditions will be fulfilled.

Prof. Laughlin, one of the most distinguished American economists, has advanced the theory that labor-unions pervert the natural course of wages by exerting an undue pressure upon the market in the direction of enhancing the wages of their own members and depressing the wages of non-unionists whose natural outlet is closed by their exclusiveness. "The strikers gain at the expense of other workmen." The theory, though open to discussion, is partly true. But it will not turn a single union from its attempts at monopoly, because in the conflict of interests each individual or group of individuals, whatever theory it may hold, looks to its own interests, perfectly sure, in most cases, that its cause is the cause of the profession, and by extension, the cause of humanity.

The laws which regulate, with great benefit in certain cases, the length of the working-day or the labor of women and children, restrain competition and the labor party is correct when it maintains that they tend to increase the hourly rate of wages.²⁷ The assertion that such laws will not diminish the wage for the working-day, abridged in this way, nor interfere with the accomplishment of certain kinds of work, is more doubtful, however.

The wage-fund and trade-capital.—The old theory of the wage-fund, suggested by Adam Smith, developed by Ricardo, and defended by John Stuart Mill, assumes the existence of a fixed sum of capital set aside for the remuneration of a fixed number of laborers. If these two factors did not change, wages would be maintained at a fixed level; if one class of laborers secured an advance of wages, the increase

²⁷ Upon this question, see the article of Mr. Beardsley in the *Quarterly Journal of Economics* for July, 1895. Mr. Beardsley's article contains some very sound and some very doubtful propositions.

would have to be taken from the fixed fund and in consequence the wages of the remainder would undergo a proportional decrease; if the number of laborers increased, wages would fall in proportion to the increase. In America several distinguished economists have accepted the theory, in the bare form just outlined, or with slight modifications. Others have shown it to be inadequate²⁸—an insufficient reason, it may be noted, for rejecting it *in toto*.

We may admit that in no country is there a fixed sum of capital set aside in a special fund and reserved for the payment of laborers. But it is very plain that the man who employs laborers must have buildings, machinery, raw material, and that for this, fixed and circulating capital is required; that before the product is bought and paid for it is almost always necessary to pay the wages of the workmen, which makes it necessary to have a fund of circulating capital. It is this which has been called the wage-fund. As a rule wages are advanced from capital. But even in those industries, railroads for example, in which the entrepreneur receives the price of the service before paying the wages of the employee, the capital fixed in road-bed and rolling-stock must have been advanced. During the first half of the present century farm hands were paid off only once or twice a year in certain sections of the United States. Even in this case the farmer had to possess a certain working capital. The more abundant capital is, however it may be employed, the greater is the demand for labor and the higher are the wages of the workman. This also must be admitted.

Prof. Simon Newcomb has given a very keen analysis of the wages question in his book *A Plain Man's Talk on the Labor Question*.²⁹ "Suppose, then," he says, "that the factory is compelled to pay higher wages. Then it must either lessen its force or it must charge a higher price for its pro-

²⁸ See *inter alia* *The Wages Question*, by F. A. Walker, pt. i, ch. ix; and *Traité Economique et Pratique*, by Paul Leroy-Beaulieu, ii, 261.

²⁹ Page 158.

ducts. In the latter case it will be bad for everybody who has to buy cloth, especially for laborers. In fact, the chances are that fewer people will buy the cloth, and thus the result will be, in the end, a diminution of production. What is true of this factory is true all the way through society. All other conditions being the same, one class cannot get an increase in money wages except at the expense of other classes." A general increase of wages would necessarily result in an increase in the price of everything, if production remained the same.

I have taken occasion once before to remark that this argument makes no impression upon the laborer who, like any other vendor of goods, tries to get the highest possible price for his stock in trade. The attention of the laborer is fixed upon the distribution of the product. Whatever the latter may be, either in quantity or value, he demands a larger share for himself and smaller shares for the entrepreneur and the capitalist, and sees no reason why the new arrangement should not continue indefinitely, other things being equal, since he is familiar with instances in which the cost of raw material has increased without producing a corresponding advance in prices. As Prof. Newcomb claims, if a universal advance of wages suddenly takes place, unaccompanied by an increase in production, prices must rise. But the hypothesis is gratuitous; there is no magic wand at whose touch wages rise *en bloc*; those laborers who obtain the first advance reap a real advantage and each one tries to be among the first. If the advance in wages is deducted from the shares of the other two agents, a simple redistribution occurs, consumption is not increased and production consequently is unchanged. But if production is increased, either in quantity or value, essential differences are introduced; the share of one agent may be enlarged without encroaching upon those of his collaborators; there is more wealth, the agent who makes more can spend more, and by stimulating production may call forth an entirely new increase of wealth in other industries.

Production and consumption.—One other factor must be taken into account. The quicker the production and consumption of products, the more rapidly capital is renewed. A given amount of circulating capital that is rapidly replaced will command more labor, pay more wages and, by increasing the demand, pay higher wages, than an equal amount that is turned over less frequently.

The wage-earner himself is an important element in this process of renewal. By the employment of his wages in consumption he is incessantly returning to capital a part of that which capital paid him; he accelerates the circulation.⁸⁰ This phenomenon is well illustrated in the United States. Compared with certain countries of Europe the amount of accumulated capital is relatively small perhaps, but the consumption is large and capital boldly and quickly launched in industrial enterprises.

The United States to-day are comparatively wealthy because they have experienced, thanks to the natural richness of the soil and the activity of the people, an almost uninterrupted economic development in every direction. This development has engendered a demand for labor that grows greater every day and has sustained production by a consumption which is superior to that of Europe.

Recapitulation.—It is a mistake to attempt to explain wages by any single cause, except supply and demand which comprehends all causes. The attempt invariably results in one of two things: we either violate certain facts by forcing them into conformity with our formula, or allow them to escape by proposing a formula which in order to be simple becomes too narrow.

⁸⁰ "If production furnishes the measure of wages, then the wages class is entitled to the immediate benefit of every improvement in science and art, every discovery of resources in nature, every advance in their own industrial character. Surely it is not a small matter that the laborer should find a measure of his wages in the present and the future, rather than in the past." Here, in brief, is the whole theory of General Walker. See *The Wages Question*, p. 44.

Many economists have made this mistake. Like the pursuit of absolute truth in general, it is very seductive. But the penalties are many. Such a law not only invites criticism because of its inconsistency, but it brings the whole science into disrepute. I would place the science beyond the reach of such criticism by proposing the more moderate formula: *Wages are determined by complex causes,*²¹ which act diversely upon supply and demand, and thus fix the rate peculiar to each industry and each individual; from these separate rates the statistician attempts to deduce the general average rate of the country. These causes are: *productivity*, which is the principal agent in the graduation of wages according to the merit of the workman and which must be credited with the greatest share in the general elevation of wages which has taken place in the nineteenth century; *competition*, which from the laborer's standpoint is affected disadvantageously by immigration, advantageously by the development of industry, and in opposite directions by the association of employers and the organization of wage-earners; *cost of living*, which, though a result of wages, in turn assists the laborers to resist reduction and tends to maintain his income at the point required by his mode of living; *industrial-capital*, fixed or circulating (the last practically coinciding with the *wage-fund*), whose influence varies in accordance with its quantity and its rapidity of circulation; *activity of production and the general state of wealth*, which exercises a general influence upon the rate of wages; *consumption*, which animates and directs production.

The wages of domestics are not paid from the same fund

²¹ In the *Quarterly Journal of Economics*, July, 1895, p. 452, Mr. Charles Beardsley correctly says: "According to the theory that wages are limited by capital, wages might rise if capital increased. According to the doctrine that wages depend on product, wages may rise if the product increases. Both theories ignore the fact that a change in the volume of the national dividend may be accompanied by a readjustment of the relative proportions of the shares in distribution. . . ."

as those of industrial laborers. The wages of the latter depend, in main, upon the value of the product, those of the former upon the income of the master. If the workmen demand and obtain double wages in a factory that was just paying expenses before the advance, the firm will soon go to pieces. If a household servant demands twice as much pay, the employer may discharge the servant or pay the advance if he is able; but in either event the family will continue to exist.

All these forces are at work in every country in which the wage-contract is free.²² But many of them act with greater intensity in America, a new country, than in Europe. Of the forces making for low wages, immigration may be cited: among those making for high wages are the circulation of wealth, which is very rapid in America, and the productivity of labor and the standard of living, which are both higher in America than in Europe.

In the study of wages in America two facts are particularly noticeable: the increase in the volume of wages during the second half of the nineteenth century, and the elevation of the average rate of wages, which is higher than in any other country. The former phenomenon is common to Europe and America; the second is the distinguishing characteristic of American wages. The principal causes of the latter phenomenon are: first, the progress and the increasing productivity of industry; second, the uninterrupted settlement, appropriation, and cultivation of the soil in the last hundred years, and the continuous development of transportation facilities, manufactures, and the national consumption; third, the great increase of wealth and in particular the rise in the value of land and mining property. Other causes are found in the organization of labor, the democratic spirit

²² French economists for the most part admit this complexity in the causes which determine wages. See, among others, Beauregard, *Essai sur la Théorie du Salaire*; E. Chevallier, *Les Salaires au XIX^e Siècle*; Leroy-Beaulieu, *Traité Théorique et Pratique de l'Économie Politique*; Maurice Block, *Les Progrès de la Science Économique*.

of the American people, and the ease with which land is acquired and a fair income secured by its cultivation. The progress of industry is not peculiar to America. But the productivity of the laborer is greater than in Europe, with the possible exception of England, because employers supply their workmen with the most improved tools and machinery which the workmen are intelligent and energetic enough to use to advantage. The same statement cannot be made of the workmen of all countries. And yet a large proportion of the immigrants, after they have been brought under the influence of the same environment, gradually acquire this characteristic. Except in Switzerland the sentiment of equality is nowhere so general as in the United States. This feeling emboldens the laborer in the defense of his rights and at the same time preserves him against revolutionary excess. It has also been favorable to the formation of labor-unions which in turn have served to keep wages high.

Mode of payment.—The wage-problem is often complicated by secondary causes. Wages may be paid in money or in kind. In the United States wages were formerly paid partly in money and partly in food products, and the custom is still preserved in some places. This system may be justified in some cases by the scarcity of money, but it makes the value of the wage uncertain, leaves the laborer less freedom, and becomes detrimental to him when the employer charges an extortionate profit upon the commodities with which he pays off.

Wages may be paid at short or long intervals. For a long time, in certain parts of the United States, it was the custom to pay off only once a year, the workmen being virtually bound to their employers, and the wages subject to a certain time-discount. Since money has become plentiful and the labor-unions powerful, the more normal course has been generally adopted, of paying once a week or twice a month. Weekly or bi-weekly payments are vigorously demanded by the unions.

Wages may be paid in good or in depreciated money. The payment in depreciated money is misleading, as the workman nominally receives a larger wage than before the depreciation, and in many cases he is deceived by the change. As prices are higher he is really no better off, and usually is worse off, because the rise in wages ordinarily comes a good deal later than the rise in prices. The Americans received strong proof of this during the paper money régime which existed during and after the Civil War. The illusion produced by the high wages of this period is responsible for an error of judgment that is frequently made by American workmen, who often affirm that wages have fallen because they see in statistical tables that money wages were greater before than after the resumption of specie payments, and in some occupations, greater than to-day. They would avoid this error if they would take the trouble to compare money wages with the cost of living during that period.

CHAPTER IX.

REAL WAGES AND WORKMEN'S BUDGETS



Real and nominal wages.—Of the two forms in which wages are presented—as a sum of money, and as the quantity of ordinary consumables purchasable with this sum—the former alone is capable of fairly exact quantitative investigation. Even in the study of nominal wages it is easy to go astray. The amount of lost time complicates the problem; the great diversity of wages, as we have pointed out above, prevents the calculation of a real average; and when part of the wage is paid in kind it is almost impossible to avoid mistakes. Real wages on the other hand are essentially indeterminate. The form and extent of consumption vary in accordance with the country and the time, and at the same time and place, in accordance with the income and habits of individual families. The sum of money that the workman receives may be calculated from the books and the pay-rolls of industrial establishments. But this tells us nothing about the use he makes of the money. Nominal wages may constitute an essential datum in forming a judgment of the condition of the working classes, but they supply only the first term of the equation. Real wages, which imply a knowledge of the purchasing power of money, constitute the final result. If nominal wages are the same in two countries, but prices twice as high in the first as in the second, real wages are only half as great in the first country, and the working classes are far less prosperous.

Whether or not the laborer manages to live upon his wages and keep out of debt, is a question which I am often called upon to answer, in relation both to France and the

United States. I answer that the receipts and expenditures of the laboring class, considered as a class, necessarily balance in every country of the world.

There are publicists who make a point of quoting statistics or writing papers to show that the average working-man does not live within his income. They have no difficulty in finding illustrations. When they present these in good form they render a service to science; they supply certain colors which must be used in painting the true picture of social conditions. But they are mistaken when they claim that these should form the predominant tone of the whole canvas. That there are laborers who fail to make ends meet is no justification of the statement that the whole laboring class is in debt.¹ A little reflection shows that it would be impossible for so numerous a class to live in a condition of permanent insolvency. This would mean that the laboring class was living, in part at least, upon the earnings of the other classes, and one cannot imagine a free society in which millions of men are supported at the expense of a minority. The laboring classes then are self-supporting. The important question, however, is not whether, but in what manner, each class supports itself.

The increase of comfort and the social power of money.—To fully understand the condition of the laborer it is necessary to know something more than his real wages—that is to say, the quantity of commodities his earnings will command. We must know how effectively he spends his wages, and what his family is accustomed to consume.

Wants are not the same in all times and places; they differ in cold and warm climates, in rich and poor countries, in different states of civilization. It is plain, for example, that seventy years ago our fathers felt little need of riding on railroads. Wants are aroused by the possibility of satisfac-

¹ In Connecticut in 1888 it was found that out of 611 families of workmen, 352 earned more, and 259 earned less than enough to pay expenses.

tion. For many years I have insisted upon a distinction between the *social power* and the *commercial* or *purchasing power* of money. The latter, like real wages, depends upon the quantity of commodities which may be secured, the former upon the social position that may be maintained, with a given amount of money.

Whether prices have fallen, or what is the same thing, whether the purchasing power of money has risen, is open to debate. But there is no disputing the fact that in all classes of society in Europe and America more money is now spent in maintaining social position than was the case fifty years ago. The laborer is no exception to the rule. New wants have arisen and have so fastened themselves upon us that every man would think himself disgraced if he did not make place for them in his budget. As a consequence the social power of money has diminished, since it is necessary to spend more under penalty of losing caste.

Prof. Newcomb has borrowed the machinery of Dante to illustrate the increase of comfort among the working classes. The archangel Michael introduces an eighteenth-century farmer into the household of a present-day laborer. The old countryman marvels at seeing paper upon the walls, the woodwork painted, the chairs easy and comfortable. In one room he sees an organ, photographs upon the mantel, lace curtains; in another, white bread, sugar, china, upon the table; in a closet a pile of snowy linen. On the second floor he finds the beds covered with fine spreads, the housewife clothed like a great lady, and two small children dressed like fairies. "It is the house of the governor," says the farmer. "No," responds his guide, "it is the house of a bricklayer." In due time the bricklayer comes home, changes his working clothes, and sits down to dinner, eating raisins from the Pacific coast, and putting lumps of sugar into his tea without so much as counting them. The visitor inquires for the spinning wheel, and is greatly surprised that the wife does nothing but attend to her household. He is still more astonished to learn that the brick-

layer is not satisfied with his lot.² Prof. Newcomb does not add that the unsatisfied ambition of the bricklayer is as natural as the wonder and admiration of the old farmer.

It would be foolish to concern one's self about this change which is merely a state of increased comfort resulting from the general growth of wealth. But it is important to distinguish between the two properties of money, because without this distinction it is impossible to explain the sayings, originating probably with emigrants or travellers, which are heard everywhere in Europe: "Living is very dear in the United States," and "The workman may earn more than in Europe, but it costs him more to live."

In fact the laborer does spend more than in France. But it is because he desires to, and because he must adjust his life to a higher standard of living in order not to be looked down upon by his fellows.

The income of the workman's family.—This is usually to be ascertained by multiplying the daily rate of wages of the workman by the number of working days in the year, allowance being made for lost time. In some cases the earnings of his wife and children must be added. These three forms of income have already been treated separately. We have only to unite them in order to gain an idea of the family income.³

² *A Plain Man's Talk on the Labor Question*, p. 113, *et seq.*

³ See *ante*, ch. v and vi, and *L'Ouvrier Américain*, ch. x. In those chapters it was pointed out that nominal wages are higher in the United States than in England. To the evidence given in chapter v the following may be added. In 1896, Mr. Kiaer, official statistician of Norway, made a careful investigation which covered 957 factory operatives. The average yearly earnings were found to be from 600 to 1000 crowns in the cities, and from 400 to 600 in the country. A study of the large coöperative societies published in the United States in 1896 showed that the employees of these associations made \$609 on an average in America and \$377 in England. A comparative table of wages prepared by a factory inspector of Russia shows that weavers made 60 rubles per month in America, 35½ in England, 15 in Russia. M. Schulze-Gaevernitz, who quotes these figures (*Circulaire du Musée Social, série A, No. 12*),

The bureau of labor of New Jersey from an investigation covering 319 families of workmen found that the average family was composed of 4.8 persons, of which 1.45 persons were engaged in gainful occupations, i. e. in every second family the wife or one child was at work. The average total income per family was \$680, of which the husband brought in 87 per cent or \$594.

The higher the wages of the husband the less frequently does the wife accept outside employment. This was clearly shown in the investigation made by Dr. Gould, in which it was found that among the higher classes of laborers the husband earned 89 per cent of the entire income, while among coal miners the proportion brought in by the husband was only 77.5 per cent. In the cotton industry, in which wages are low, the Commissioner of Labor of the United States has ascertained that in a mean income of \$657 (based upon 1934 families) \$400 or about 60 per cent were earned by the husband; that in 1081 households the children earned \$390, and in 332 families the wife earned \$182, on an average.* In the woolen industry it was found that in each 100 families, 95 men, 28 children, and 9 women worked in the factories.

Mr. Gunton holds that the factory hand is paid less than the bricklayer or the mason because of the very fact that the

says that wages are low in Russia because the workman, as a rule, does not support his family, which remains in the village at the expense of the mir. He adds that the condition of the laborer is very humble: he works from 12 to 15 hours in the government textile factories at Wladimir, and 12 hours (a night and a day shift) in the government spinning mills at Moscow. He is frequently fined, irregularly paid, subjected to a very oppressive truck system, and sometimes cuffed and beaten. We have here a good illustration of the relation which exists between the material and moral condition of the workman.

* In one group of 911 families, 867 men, 82 women, and 260 children worked. In New Jersey an investigation of 85 families showed 85 men, 1 woman, and no children at work. In this study it was estimated that in every 100 families there were 22 women in France, and 10 in Great Britain, engaged in outside employment. This estimate is, however, based on a small number of cases.

wife of the former usually works in the mills and thus contributes to the "cost of living" or the expense of maintaining the family. This explains, he asserts, why among workmen employed in the building trades there is only one person (excluding the husband) in every four families who contributes to the family income, while among factory operatives there are $1\frac{1}{4}$ persons (besides the man) per family who contribute to the family expenses. This is also the reason why in the former class the man contributes 97 per cent to the support of the family, while among factory operatives this proportion is only 66 per cent.⁶ In my opinion Mr. Gunton confuses cause and effect: the wife would not

⁶ The table quoted by Mr. Gunton in support of his theory is instructive enough to warrant reproduction here. It is taken from the sixth report of the Massachusetts Bureau. (*Wealth and Progress*, p. 171.)

Trades.	Father's yearly wages.	Number in family.	Wife and children working.	Total earnings of wife and children.	Total yearly earnings of family.	Total cost of living.
Shop trades.....	\$752	4 $\frac{3}{8}$	$\frac{1}{8}$	\$69	\$821	\$772
Metal-workers.....	739	4 $\frac{3}{8}$	$\frac{3}{8}$	91	830	723
Building trades.....	721	4 $\frac{3}{8}$	$\frac{1}{8}$	73	794	740
Teamsters.....	630	5 $\frac{1}{2}$	$\frac{1}{2}$	105	735	729
Shoe and leather trade....	540	4 $\frac{3}{8}$	1	209	749	693
Metal-workers' laborers...	458	5 $\frac{1}{2}$	1 $\frac{1}{2}$	256	714	698
Mill operatives.....	572	5	1	250	822	755
Mill laborers.....	386	6 $\frac{3}{8}$	1 $\frac{1}{8}$	284	670	639
Shop laborers.....	433	5 $\frac{9}{16}$	1 $\frac{1}{16}$	232	665	642
Outdoor laborers.....	424	6 $\frac{1}{8}$	1 $\frac{1}{8}$	258	682	651

These and other statistics in *loc. cit.* furnish the following table of proportions of the family income earned by the father in the several occupations and places noted:

Building.....	91 per cent.
Iron.....	89 "
New Jersey.....	87 "
Coal mines.....	77.5 "
Boot and shoe.....	72 "
Textiles.....	69 "
Cotton.....	60 "
Laborers (textile industries).....	57 "

go out to work unless the earnings of the husband were insufficient to pay the family expenses. Suppose for instance that the wife and children of every day-laborer who made more than \$1.25 a day were prohibited from working. No diminution of day-laborers would ensue, and in consequence there is no reason to believe that their wages would rise. The laborer's family would simply have less to spend.

The average total revenue of the workman's family from all sources, as given by the United States Bureau of Labor in its seventh annual report, is \$657 in the cotton manufacture, \$663 in the woolen manufacture,⁶ \$559 in blast furnaces, \$784 in iron works, \$663 in steel works, \$550 in coal mines, \$572 in the coke manufacture, \$401 in iron mines.⁷ A recent study made in Wisconsin seems to indicate that the preceding figures are a little too high. Only 3.2 per cent of the families investigated enjoyed an income of \$600 or more, while 51.6 per cent lived on less than \$400.⁸

Certain statistics have been given which go to show that the average deduction which must be made for lost time is about 10 per cent under ordinary circumstances. This estimate is corroborated by a recent investigation in Massachusetts which showed that the average yearly earnings in 4003 establishments were \$436, or just about ten per cent less than the amount obtained by multiplying the average daily wage by the number of working days in the year.

The principal items of the workman's budget.—Food, lodging, and clothing, the three most essential items of the workman's budget have already been considered.⁹ With regard to expenditures the difference between the American and the European laborer is one of degree and not of kind. Insurance, for instance, is of secondary importance, ranking with amusements and miscellaneous expenses. Provision of

⁶ *Seventh Annual Report of the Commissioner of Labor*, p. 1765.

⁷ In the latter industries the income from boarders is included. See *Sixth Annual Report*, p. 1356.

⁸ Report of the Bureau of Statistics of Wisconsin, 1895-96.

⁹ See *L'Ouvrier Américain*, pt. ii, ch. i, ii, iii.

this nature can be made only when there is an income more than sufficient to provide for the absolute necessities of existence. Other items of expense appear, increasing in number with the size of the income. Wants never fail; the limit is fixed by the means of satisfaction.

But the level of wages is high in America and in most families some provision against future want is made. We have seen how important the savings bank, the labor-union, the mutual benefit society, and the life insurance company are in the life of the American workman.¹⁰ A laborer often belongs to several societies of this kind at the same time. In 1883 a Cambridge printer testifying before the Blair Commission said, in answer to a question of the chairman, that he belonged to the International Typographical Union, the Knights of Labor, the Central Trades and Labor Union of Boston, and the Massachusetts Federation of Trades.¹¹ In the majority of American families, as is clearly shown in the budgets cited in this and preceding chapters, a certain sum is devoted to insurance of some kind. I insist upon this point again¹² in order to emphasize my denial of the opinion that the American workman is improvident. Although his savings often take the form of semi-compulsory dues to a labor-union, there is no reason either to deny the fact that he saves, or to exaggerate the amount of his savings.

The lodge.—The Americans are much given to grouping themselves into societies for social purposes as well as for mutual benefit. An investigation made some years ago in Massachusetts brought out the facts that in 19 cities and in 214 rural communities there were 107 clubs and 131 secret societies—Masons, Odd Fellows and Knights of Honor

¹⁰ See *L'Ouvrier Américain*, pt. ii, ch. v.

¹¹ *Labor and Capital*, i, 47.

¹² See *L'Ouvrier Américain*, pt. ii, ch. v, in which Prof. Levasseur discusses at some length the notion, which seems to be prevalent in Europe, that the American laborer is extravagant and improvident. [Tr.]

being the most numerous; that 145 towns had organized conferences; 120 scientific associations; 159 dancing academies exclusive of athletic associations. It was estimated that in the cities one out of every $4\frac{1}{2}$ adults, and in the rural districts one out of every 5 adults was a member of some society of this kind.¹³

Travel.—Like other Americans the laborer moves from place to place with great facility; the cost of travel is an item of expense which cannot be neglected: I have already noted how easily he changes his place of residence to obtain a higher wage. Many trades-unions have a special fund devoted to the assistance of members travelling in search of work. The laborer will even take a long trip to attend a meeting of his lodge or a Sunday pic-nic. A great portion of the laboring classes live in the suburbs or country and come to work by the railroad or street railway. To this class car-fare is a regular expense similar to an increase of rent. In New York a family in very moderate circumstances was pointed out to me in which three children went to school every day in the street-cars (5 cents a trip).

One of the workmen in a manufactory of bronzes in New York told me that the members of his family spent at least four dollars a month in car-fare. Fifteen years ago the workmen of Boston spent \$22 a year on an average in travel of various kinds.¹⁴ It is natural that car-fare should be a greater item in large cities than in the smaller ones. It has been estimated that the annual number of rides on street-railways *per capita*, is 20 in cities of from 20,000 to 30,000 inhabitants, and 80 in cities of more than 400,000 inhabitants.¹⁵

The horse and carriage.—Although the European traveller quickly gets accustomed to American workmen who own their own homes, containing gas, water, and sometimes fur-

¹³ *Eleventh Annual Report . . . Massachusetts*, 1880.

¹⁴ *Fifteenth Annual Report . . . Massachusetts*, p. 109.

¹⁵ *Rapport des Ouvriers Délégués à l'Exposition de Chicago*, p. 417.

naces, who have parlors in which they receive visitors, and who talk, read, and rest on Sundays, he may be more surprised to find that some of them keep carriages. Such cases are not rare in the East, and they are very common in the West where horses are cheap.

The newspaper and the church.—The workman reads the newspaper as everyone else does in America. In the New York street-cars when people are going to work in the morning or coming home in the evening, more than half of the passengers have a newspaper in their hands. Daily papers cost 1 and 2 cents, weekly papers, 5 cents, as a rule. There is no doubt that the enormous development of the American newspaper in the last forty years has been due in part to the laboring classes. In 1850 there were 2526 periodical publications in the United States. In 1890 there were 17,616, of which 12,721 were weeklies. The weekly and Sunday papers have the largest circulation as the people have more time to read on Sunday than on any other day. According to the census of 1890 the number of copies printed in 1889 was 4,681,000,000.

Religious contributions frequently have a place in the budget of the American workman. The French labor delegates seemed to be somewhat astonished at this fact and tried to find extenuating circumstances for what they regarded as a weakness. The reason is that the state of the public mind is entirely different in France and the United States. There is scepticism and indifference in the United States, but no systematic opposition to religion, and in particular, no anti-clerical party, with the exception of an unimportant body of revolutionary socialists of whom I shall speak later on.¹⁰ I have no doubt that the Americans owe this advantage to the absolute freedom of belief and the complete absence of all public authority over the exercise of religion. It is partly due, also, to the diversity of Protestant sects. From the narrowest and most rigid to those

¹⁰ See *L'Ouvrier Américain*, pt. iii, ch. vii.

which represent the broadest theism, all are obliged to live together in peace and amity. The American people are not irreligious, and have little taste for the blatancy of atheism; and in this respect the laborer is one of the American people." The young people as a rule attach themselves to some denomination, though not necessarily to that of their parents. In this matter they are generally allowed to take their own course. They usually attend Sunday-school also, where they receive a certain amount of general instruction and social pleasure in addition to the regular religious training. Prominent features of the Sunday-school are the "pic-nics" and the "social unions."

The unmarried workman.—As the wife of the American workman rarely contributes anything to the family income, the advantage of the unmarried over the married workman with regard to the adjustment of expenditure to income is much greater in America than in Europe. Statistics showing that unmarried workmen save a larger portion of their savings, are common. On the other hand the unmarried workman is exposed to much greater temptation to spend: human nature is the same on both sides of the Atlantic. In the senatorial investigation of 1883 a typographer said that in his trade the average unmarried man went to the theatre at least once a week, and took a much larger part in the dinners and celebration of the union.

I have already spoken of the custom of sleeping two in a room which is very common among unmarried workmen. The sexes are never commingled in America, although this is no reason for believing that this custom is especially favorable to morality. Neither is the widespread custom of

¹¹ An investigation covering 17,427 workmen living in a section of the country in which Canadians were numerous, shows that they were divided as follows: Catholics 7769; Protestants 5854; Jews 369; 2309 had no religious connection, and the remainder made no report. At St. Louis, for example, one notices a certain religious indifference, accompanied by a relaxation of morals, while at Providence, Richmond, and other places the religious habits are strong.

taking boarders. As the workman's house is ordinarily of good size and the rent high, he often ekes out his income by letting a room to an unmarried man who usually eats at his table.

Unmarried workingwomen.—Single women frequently board with private families, but in this case, we may believe, there is less exposure to moral dangers.

The following numerical conclusions were established in the investigation of workingwomen in large cities made by the Bureau of Labor of the United States: out of 17,427 women interrogated, 15,387 were single; 1038 widowed, 745 married, and 257 divorced or separated. Of the whole number cited 14,918 lived at home, 893 in boarding and lodging houses, and 1616 boarded in private families. Of the 14,918 living at home 8754 gave their earnings to the general support, 4267 paid board, 701 received their board, 1196 lived under other conditions. 9813 of those living at home assisted in the housework, 5105 did not assist.

A special investigation made by the Illinois Bureau of Labor Statistics¹⁸ gives very similar proportions: out of the 2919 single women, 2100 lived at home, and 710 boarded. Shop girls spend a third more on dress than laboring girls. Both classes save little and spend a comparatively large proportion of their earnings on car-fare.

In general the single woman makes and spends less than the single man. According to reports on workingwomen in large cities, the average income is \$335, the average expenditures \$286, of which 57 per cent is for food and lodging and 28 per cent for clothing. For the first two items the proportion is small; the proportion devoted to dress is large. Both facts are characteristic of the budgets of young women.

The housewife.—In many households the husband allows his wife a fixed sum each week (\$6 is probably near the average among the laboring classes), for current expenses.

¹⁸ *Seventh Annual Report.*

If she keeps a boarder she has in addition about \$5 a week on an average; and if she has two boarders she can get along nicely on the \$16 thus provided. Among those who are in easy circumstances, skilled mechanics for instance, the wife often receives an extra allowance of \$3 or \$4 a week for personal expenses.

When the morning duties are attended to and while her husband is still at work, the wife often idles away an hour or two in the shops or before the shop-windows. As a girl she was kept at school longer than her husband, and after her marriage she finds that she is better educated than her husband. She reads a good deal, and it is not an unheard of event to find her taking lessons in French, drawing, or music. In fact this seems to have become a sort of fad in some parts of the country. A French foreman who had spent two years in inspecting American factories told me that he had heard of a woman fifty years old who was taking lessons on the piano and had not learned to do anything more than run the scales. He was personally acquainted with the wives of other workmen who had been taking two French lessons a week at one dollar a lesson for three years, and still knew almost nothing about French.

In his testimony before the Senate Committee on Education and Labor in 1883, Mr. Steinway, the piano-manufacturer, said that a man could live comfortably, though not luxuriously, on \$2 a day if he had a wife worthy of the name. Generally, he continued, the wife has no household training, and though she may play a little on the organ, she does not know how to cook, and allows her husband to come to work on Monday mornings with the dirt on his clothes that he got there the preceding Saturday.¹⁹

It is always a rash proceeding to attempt to sketch with a few strokes the character of a nation, because humanity is everywhere the same and everywhere different. I am inclined to think that the American housewife among her

¹⁹ *Labor and Capital*, i, 1112.

many excellent qualities does not include that of economy. Nevertheless, I heard a very different opinion maintained in a conversation I held upon this subject with a lady and one of the higher employees of a Long Island manufactory, who were both familiar with the working classes in New York and Europe. The wife of the American laborer, they told me, is more intelligent than the wife of the French laborer; she is more independent, claims a position of equality with her husband, and if the latter will permit her to do so, gets along well with him. When they disagree, however, she does not hesitate to seek a remedy in divorce. In other respects she does not introduce trouble into the household more frequently than the Frenchwoman. Before marriage she is accustomed to social enjoyments, and afterwards she preserves these habits and tastes. At night her husband usually remains at home; on holidays, husband and wife go out together in search of amusement. She nurses her own children or brings them up by the bottle. She is very orderly as a rule, and insists upon her husband's having a place for his possessions as well. Neither is she so wasteful of food as has been claimed: those who allow useful odds and ends to find their way to the garbage box are usually foreigners who suddenly find themselves surrounded by comparative abundance. Because she is clever at making over old dresses or beautifying them by the skillful application of a ribbon or two, she is accused of being extravagant in her dress. The shop-girls of Paris, they thought, dress much more gaily than those of New York. When the American woman is seen rocking in an arm-chair at eleven o'clock in the morning, book or newspaper in hand, it is because she has finished her work, and not because she is lazy. She seldom works in a factory, but very often accepts a place in a store at \$5 or \$6 a week, or becomes a typewriter, private secretary, etc.

Moral and intellectual conditions.—In my investigation of the American laborer I have been deeply interested in the question of morality: what are the moral results of the great

amount of freedom accorded to American children, girls as well as boys, who leave home at an early age and in later life feel no obligation to support indigent parents (though many do so); whether the habit of flirtation among young people, the superior education of American women and the great amount of leisure they enjoy, exercise an appreciable influence upon the relation of the sexes; these are questions of the gravest import. But the evidence I have collected is so contradictory that it seems impossible to reach definite conclusions upon these points. The number of illegitimate births furnishes little assistance: illegitimate births are seldom if ever recorded, and in addition they do not furnish a measure of the irregularity of morals.²⁰ Neither do we find much assistance in statistics and studies of prostitution; the class of prostitutes is chiefly filled by servants and by women who have never exercised any other trade; the working class properly so-called furnishes only a small contingent.

I have heard cruel testimony of the depth of immorality in America, and on the other hand I have listened to witnesses who, while they did not deny the existence of immorality, painted the situation in far different colors. But when I read testimony such as the following from the pen of an American economist who has made a personal investigation into the conditions described, I am less reassured and am inclined to believe that the difference of institutions modifies exterior appearances more than depths of human nature.²¹

²⁰ Upon this question see *La Population Française*, by E. Levasseur, vol. ii, ch. viii, xiv.

²¹ "I am told by one who ought to know," says Professor Ely, "that unchastity is to-day a more crying evil among them than intemperance. Girls are often obliged to submit to insults, to resent which involves dismissal and loss of livelihood. . . . Frequently, they are started on the downward track by their boss or employer, who shows them favors in their work, for which they pay with their virtue. When I made a tour of personal inspection of industrial centers in 1885, preparatory to the preparation of this

The writer who speaks of the American laborer is apt to be asked what that laborer thinks. In this country and elsewhere romances have been written in which a picture of the laborer is presented: the author has seized a trait here, one there, and from the collection of characteristics with the assistance of his imagination has attempted to paint the laborer as he is. But the characteristics which strike the attention in the hurry of travel are often the abnormal characteristics. The romancer might accept them the more willingly because they throw his picture into relief, but he would do so at the risk of presenting an exception as the type.

Laborers are not all one type: like other people they have different characters and different customs. They are less educated than the bourgeois class as a rule, although in this as in other respects the difference between the different classes is much more distinct in Europe than in America. But they are as generous, as affectionate toward their family, and quite as capable of devoted and disinterested friendship as members of any other class. There are moralists who pretend, with insufficient proof however, that the last quality is rare among the laboring class.

Such is my conception of the American laborer, based largely upon what I know of my own country. I do not pretend to have penetrated far enough into American family life to be able to speak with authority upon this subject. Moreover, the habits of life and manners of thought are complicated in America by the multiplicity of nationalities. A skilled mechanic of American parentage, for instance, is not within the same current of ideas and feelings as a street-laborer recently arrived from Italy.

book, I spent a few days in a city of less than thirty thousand inhabitants in good old New England, where I was told that as many as two hundred couples live together outside the bonds of wedlock. It was something so common that it did not involve a loss of caste in the laboring population." *The Labor Movement in America*, p. 320.

The laborer, as is but natural, is much interested in social questions, particularly in labor problems, and this explains why he is so often led into socialism.²² But it would be a great error to imagine that a majority of the laboring class accept the doctrines of socialism. The employer is a frequent subject of conversation but by no means a subject of hatred. The note of eulogy cannot of course be the dominant note. Human nature is of such stuff that the condition of subordination and the friction of interests frequently antagonistic, engender an atmosphere very favorable to criticism. But is it always an atmosphere of justice and benevolence in which employers discuss the subject of employees, or their wives the servant question?

The connection between prices and nominal wages.—It has been demonstrated that during the last fifty years nominal wages have greatly increased in the United States except in a few branches of industry. If on an average the prices of the commodities consumed by the laborer have not changed during that period, real wages have risen in the same ratio as nominal wages. If prices have risen in the same ratio as nominal wages, real wages have not changed. If prices have fallen, real wages have risen more than nominal wages. Neither of the first two conditions has been fulfilled; it is the third which has the strongest basis in fact and which it is necessary to consider.

In 1892 the chief of the New York labor bureau made an investigation of this subject, in the course of which he noted that since 1880 the price of flour had decreased about 30 per cent and the price of sugar 50 per cent, that meat and coffee had become dearer, and that milk, butter, tea, and cheese were cheaper or at last as cheap in 1892 as in 1880. He also spoke of the well-known fact that the retail prices of certain goods were twice as much as the wholesale prices and sometimes more: the workman has certainly not been the sole beneficiary of the fall in prices. Rents, he added,

²² See *L'Ouvrier Américain*, pt. iii, ch. vii.

were higher, but the price of clothing less. He concluded that, on the whole, living had become cheaper.²³

Several years before, the Massachusetts bureau drew up a report under the direction of Col. Wright upon the variation of wages and prices during the period 1830-1860. The prices of agricultural products had increased 62.8 per cent, illuminating oil 29 per cent, dairy products 38.8 per cent, fish 9.8 per cent, flour 26 per cent, wood (for fuel) 55.4 per cent, meat 53 per cent. Footwear had decreased 38.9 per cent, clothing 24.7 per cent, novelty goods 39.9 per cent, food-products (or preparations) 17.5 per cent, paper 35.1 per cent, spices and condiments 36.5 per cent. Averaging the fourteen groups, prices had risen about 13 per cent. During the same time average wages had risen 52 per cent.²⁴

The preceding conclusions are confirmed in the main by the Aldrich reports on retail and wholesale prices, both by the comparison between 1891 and 1860, and that between 1891 and 1840. According to the report on wholesale prices the average price of food-products was slightly higher in 1891 than in 1860 (103.9 in 1891, the price of 1860 being represented by 100). This increase is attributed mainly to the rise in the price of codfish, about 200 per cent. Cheese, sugar, fruits, pork, and salt beef had fallen in price; codfish, mackerel, coffee, butter, bacon, eggs, mutton, and beef had risen.²⁵ Building materials had risen 22. per cent, but

²³ *Tenth Annual Report . . . New York, 1892.*

²⁴ See *The Industrial Evolution*, p. 225.

²⁵ According to the Aldrich report the average relative price of food (that of 1860 being represented by 100) was 96.6 in 1840; 85.05 in 1850; 153.8 in 1870; 107.6 in 1880, and 104.6 in 1890. [According to Prof. Falkner's continuation of the Aldrich report, the average price of food was considerably lower in 1899 than in 1890. The relative average prices of the food group, given in the following table, cannot be compared directly with the preceding figures taken from the Aldrich report, as they are reckoned upon a new basis. But they do show the course of prices since 1890. "It is to be noted," says Prof. Falkner, "that in the general upward movement

they are comparatively unimportant in the consumption of the laborer.

Average prices had fallen in five of the seven groups of commodities considered. These five groups were: cloths and clothing; fuel and lighting; metals and implements; drugs and chemicals; house-furnishing goods; miscellaneous commodities. This fall of prices, I repeat, is not due, or is due only in a small degree, to an increase in the value of money resulting from a relative scarcity of gold, because the laborer receives a larger quantity of gold in return for his labor that he did fifty years ago. It is due to the abundance of products and, in particular, to the progress of industry which has cheapened production. I have given abundant testimony of this fact in the first and second chapters of this work. I quote another striking instance from Mr. Schoenhof's *Money and Prices*, page 17.

ENGLAND. PRICES				UNITED STATES. PRICES			
1854.		1889.		1854.		1889.	
Raw cotton....	100 lbs. 53s. 7d.	53s.		1 lb. 11 cts.		11.5 cts.	
Cotton thread..	100 lbs. 12s.	....		1 lb. 24 cts.		22.3 cts.	
Figured calicoes	100 yds. 25s.	19s.		1 yd. 6 cts.		4.6 cts.	
Printed calicoes	100 yds. 34s.	25s.		1 yd. 8 cts.		6.1 cts.	

Calculating the net variation in prices according to the consumption of the various commodities, the cost of living (rent included, but assumed to be unchanged) was found to be about four per cent less in 1891 than in 1860 (96.2 as compared with 100).²⁶

of prices, since October, 1898, food products have played an inconspicuous part."

Year.	Average relative price.	Year.	Average relative price.
1890	99.0	1896	79.8
1891	102.2	1897	79.2
1892	96.0	1898	83.4
1893	100.9	1899 (first quarter).....	86.6
1894	90.7	" (second quarter)....	87.1
1895	88.9	" (third quarter)	85.9

Bulletin of the Department of Labor, March, 1900, pp. 266-267.]

²⁶ *Wholesale Prices, Wages, and Transportation*, pt. i, p. 9. The variation between 1860 and 1891 in the several lines of expenditure

It was found possible to carry a large part of the quotations as far back as 1840 and thus establish a comparison between that year and 1891. Comparing these two years the rise in wages appears very great. Retaining 1860 as the standard of comparison, wages are shown to have risen from a level represented by 88 in 1840 to one represented by 160 in 1890. Nominal wages have thus increased almost 100 per cent in the last half-century. From 1840 to 1860 they increased slowly; very rapidly from 1860 to 1873 (though the increase was more apparent than real); from 1873 to 1878 there was a decline; in 1879 they again commenced to increase, but at a slower rate.

By a similar calculation average prices were found to be 116.8 in 1840; 100 in 1860; and 92.2 in 1891. A supplementary report showed that in the month of October, 1891, the average was represented by 91.0, while in October, 1892, it was only 89.3. In the period noted, then, average prices fell.

The resultant of these opposite movements may be described as follows: (1) in 1840 the laborer received a nominal wage represented by 88 units, each of which would purchase $\frac{100}{88}$ of a certain set of commodities; (2) in 1890 he received 160 units, each of which would purchase $\frac{100}{82}$ of the same set of commodities; (3) consequently, if this set of commodities is of exactly the same composition as the consumption of the laborer, the real wages of the latter have risen about 130 per cent.

The rise of real wages has not taken place without interruption, and it has not been so marked as the figures indicate since the laborer buys at retail, and in consequence does not reap the full benefit of the fall in wholesale prices. Nevertheless the laborer has profited in two ways; wages

was as follows, the expenditure in 1860 in each case being represented by 100: rent 100.0; food 103.7; fuel 98.1; lighting 48.1; clothing 75.1; all other items 95.3. Excluding rent, the cost of living was represented by 94.4 in 1891 as against 100 in 1860.

and the purchasing power of money have both risen. This is but another demonstration of the falsity of the theory that wages are regulated solely and inflexibly by the cost of living. Movements of a similar kind have taken place in Europe, but the gain of the laborer has probably been greater in America, because an important group of prices which were formerly lower in France than America are now higher in France.

There was one period also, 1861-1868, in which the laborer retrograded instead of advancing. The enormous emission of "greenbacks" depreciated the currency and produced a general rise of prices. But while prices rose 116 per cent from 1860 to 1865, wages rose only 44 per cent, so that with respect to his power of earning the necessities and comforts of life the workman was one-third better off in 1860 than in 1865. As one of the most prominent publicists of the labor party says of this period: "the cost of living had more than kept pace with the wages of workers, and discontent was general."²⁷ Happily for the laborer wages continued to advance while prices soon began to fall under the influence of several forces, chief among which were the return to sound money and the development of machinery.²⁸

When workingmen assert that average wages have fallen

²⁷ G. E. McNeill, *The Labor Movement*, p. 125.

²⁸ Prof. Simon Newcomb is in error when he makes a general increase of wages equivalent to a diminution of purchasing power and says that to the laborer one would be as beneficial as the other. The two phenomena are distinct although there is a certain connection between them. A diminution of the purchasing power of money is of no advantage at all to the laborer. But experience shows that wages have increased in the last fifty years and that the laboring class has received a real advantage; they have received a double benefit in the fall of prices and the rise of wages. Moreover, Prof. Newcomb himself admits (*A Plain Man's Talk*, etc., pp. 165-166) that the demand arising from the capacity of purchasing on the part of wage-earners stimulates production. "There is work enough to be done, but people have not the money to pay for it. It is not the work to be done which is limited, but it is the wages which people can afford to pay for that work."

since the end of the war they fail to remember, or do not care to remember, this rise in the purchasing power of money. It is evident that unless this is taken into account, no valid estimate can be made of the evolution which has taken place in the conditions of life during the last fifty years.

When the budgets of French and American laborers are compared item by item it is found that the purchasing power of gold is about the same to the laborer in the two countries. The American laborer pays less for most articles of food, particularly meat which he consumes in large quantities, and if he does not frequent the saloons his drink costs him little, as it is principally water. His clothes are not more expensive, and his coal and coal-oil cost less; if he pays more rent it is because there is no comparison between his dwelling and that of the French laborer. The visiting Frenchman finds a commodity here and there whose price seems exorbitant, but it is usually an article of luxury not included in the ordinary consumption of the laborer. I repeat here the conclusion arrived at in a preceding chapter: it is the social power of money and not its purchasing power which is responsible for the higher cost of living among American workmen.

Workmen's budgets in the United States.—American statisticians, particularly the commissioners of labor, have made numerous attempts to secure accurate family budgets: but the undertaking is a difficult one and we cannot expect more than approximate results.*

In the report upon conditions of labor drawn up by the French minister of foreign affairs, the budgets of American

* See on this subject the Massachusetts report for 1875, the Ohio reports from 1877 to 1886, the Illinois reports for 1879 and 1884, the Missouri reports for 1880 and 1891, the New Jersey report for 1885, the Wisconsin report for 1895-96, the Maine report for 1887, the reports of the Department of Labor for 1885, 1890 and 1891, and the analyses of Prof. Falkner in the two Aldrich reports on prices and wages.

workmen were furnished by M. Bruwaert, one of the French consuls-general to the United States. One was the budget of a miner born in France, whose family earned 1759 francs and expended 2074 as follows: 240 for rent, 79 for heating and lighting, 365 for clothing, 110 for sickness, 135 for miscellaneous items, and the remainder for food. The other was the budget of a French cigar-maker in Chicago, who earned 3950 francs which he spent in the following manner: 41.4 per cent for food, 17.4 for rent and lodging, 5.6 for heating, 21 for clothing.

The delegation of French laborers which visited the World's Fair included in its report the budget of a typical New York laboring family (father, mother, and two children), which had been communicated by an American "of great experience in social questions." The income was estimated at 3570 francs and the total expenditures at 3506 francs divided as follows: rent 780; food 1226; clothing 665; heating and lighting 147; miscellaneous expenses 687; sickness, furniture, amusements 125 francs each. But the budget furnished by the American authority is evidently not a typical one since he has based his calculations on an average daily wage of \$3.50 and allowed 102 days for lost time. Both of these estimates are too high. In addition no allowance has been made for the earnings of children.

In contrast to this are the following budgets prepared by the New York Bureau of Labor in 1892.³⁰ The first shows the receipts and expenditures of a young mechanic, 29 years of age, who lived at Auburn with his wife and one child. His receipts during the year were \$853, his expenditures \$705. The latter were distributed as follows: \$135 for rent, including light and heat; \$242 for food; \$104 for clothing—\$45 for himself, \$48 for his wife, \$11 for his daughter; \$224 for miscellaneous items, among which were car-fare \$109, amusements \$25, books and periodicals \$18, religion \$15, tobacco \$10. The other budget was that of a cooper living

³⁰ *Tenth Annual Report*, New York, 1892, pp. 297 and 311.

at Syracuse, who was forty-five years old and had a wife but no children. In this case the total revenue was only \$394, and was expended as follows: lodging with heat and light \$83; food \$167; clothing \$61 (\$36 for the husband, \$25 for the wife); insurance \$13.50; miscellaneous expenses \$70 (including \$15 for wine and liquor).

As I have remarked above, the size and composition of workmen's budgets vary greatly from family to family, according to incomes, tastes, and habits of thrift. This is well illustrated in the *Seventh Annual Report of the United States Commissioner of Labor*, which covers a variety of trades and occupations.⁸¹

	Maximum.	Minimum.
Rent	\$109 (glass).	\$33.1 (iron ore.)
Fuel	35 (cotton).	14.6 (coke).
Lighting	6.6 (bar iron).	2.9 (coke).
Clothing (husband)	42.2 (glass).	24.7 (cotton).
" (wife)	34.5 (glass).	16.7 (iron ore).
" (children)	64.8 (cotton).	38.3 (iron ore).
Amusements	28.7 (glass).	9.4 (cotton).
Taxes	13.3 (bar iron).	3.4 (iron ore).
Insurance—property	9.7 (steel).	2.0 (iron ore).
" life	24.7 (bar iron).	4.0 (iron ore).
Labor organizations	20.5 (glass).	— (iron ore).

Great variations often occur in the same occupation, where one might expect to find a substantial uniformity. The following illustration, taken from the *Third Annual Report of the Bureau of Industrial and Labor Statistics of Maine* (p. 36), covers 83 quarrymen of that State, whose incomes ranged from \$245 to \$1044.

Rent	\$75 to \$30
Food	450 to 100
Clothing	150 to 25
Light and heat	55 to 20
Societies	22 to 1 (0 for 8 families).
Life insurance	100 to 10 (\$10 for 33 families).
Miscellaneous	158 to 8

⁸¹ Pp. 854-855.

The wide range of these irregularities raises the question whether it would not really mislead the reader to calculate a mean from such data. Would not such a mean be purely fictitious? We answer no, provided the meaning of the average is made perfectly clear to the reader. A mean of this sort is merely an approximate expression of the probable point towards which the individual returns gravitate. The description of individual cases is very interesting because when it is done by a skillful hand it adds life and individuality to the subject under consideration. But the individual case may be as far removed from the type as the tail of a comet is from its centre of gravity. The best idea of the condition of the laboring man will be obtained when both general and individual views are taken, monograph and average being mutually corrective and supplementary. The human mind naturally seizes upon the type, or average, in such conceptions.

The following table contains the average proportional expenditures as calculated at various times by the labor commissioners of several States, and by Mr. Edward Atkinson.

The contents of this table may be summed up by the simple statement that in the United States one-half, or at least two-fifths, of the income of the laborer is spent for food, about one-sixth for rent, the same proportion for clothing, and the remainder, about one-fifth, for other expenses.

Rent is always an important item, from 12.5 to 21.4 per cent of the total expenditure. The former percentage represents the proportion paid by coal miners, whose dwellings are probably comfortless and distant from any town. The latter represents the proportion spent for rent in New York city. Families containing a large number of children often crowd themselves into relatively cheap lodgings because of the increased cost of feeding and clothing so many people. Among the textile workers for instance families consisting of man, wife, and five children spend on an average only

12.9 for rent. Heating is another costly item, from 4.2 to 9 per cent, although fuel is not dear. But the winter is severe in the north. The expenditure for light—about 1 per cent—is small. The relative expenditure for clothing varies from 20.9 among the glass-workers of New Jersey, to 11.3 among the laborers' families of Connecticut.

It is not difficult to find an explanation of the most characteristic differences that are noticed among the various budgets. The highest percentage for food, 61.9 per cent, occurs among the weavers of New Jersey. The reason is that their wages are very low, and food is the first necessity of life. They make it up by using only 2.1 per cent for miscellaneous expenses, among which amusement and saving occupy prominent places. In the same class are the mattress-makers of Wisconsin, who spend 59.5 for food, and 6.3 for miscellaneous items. At the other extreme is the Colorado plumber who earns more than \$800 and spends 38 per cent for food and 22.9 for miscellaneous items, or the New York laborer who brings in \$853 a year, and spends 34.3 for food, and 31.8 for miscellaneous items. When there are no children in the family the expenditure for food is relatively small as a rule. According to the *Seventh Annual Report of the Commissioner of Labor*, 38.5 per cent is spent for food when there are no children, 45.1 per cent where there are five children.

The earnings of the Massachusetts laborer were practically the same in 1875 and 1883, but the expenditure for food fell from 56 to 49.4 per cent. How are we to account for this fact? Was it because food had become cheaper? That this is the true explanation seems to be demonstrated by the budgets of the puddler and plumber of Colorado.⁸² Taking 1875 as the basis of comparison, I would not hesi-

⁸² Food was higher in 1891 than in 1860, but as shown in Prof. Falkner's continuation of the Aldrich Report "Wholesale Prices: 1890 to 1899," was lower in the years 1892-99 than in 1891. *Bulletin of the Department of Labor*, March, 1900, pp. 266-267. [Tr.]

tate to accept this explanation, because the inflation of prices resulting from the issue of greenbacks, was, on the whole, unfavorable to the workman. And yet, the fall of prices from 1869 to 1891, according to the Aldrich report, seems to have been only about three per cent.

The correspondence between the increase of income and the increase of miscellaneous expenses, is very marked in the statistics published in the *Seventh Report of the Commissioner of Labor*: with the increase of income the miscellaneous expenditures rise from 14.7 to 17.1 to 28.4 per cent. The miscellaneous expenses also rise as the size of the family diminishes. Families with five children spend 19.1 per cent for miscellaneous purposes; families without children, 25.7 per cent.

The cost and standard of living.—I have shown in chapter VIII that the standard of living is an effect rather than a determinative cause of nominal wages: it is much easier to spend all you make than to make all you wish to spend. This truth is so apparent that there would be no necessity for repeating it, were it not for the fact that there are a number of American theorists who maintain, not without ability and a show of reason, that the rate of wages is determined by the standard of living.

In order to come to a clear understanding upon this point, let us repeat our definitions: (1) By *nominal wages* we mean the amount of money received by the laborer as the price of his time or labor; (2) *real wages* may be defined as the quantity of commodities, in ordinary consumption among the laboring class, which can be purchased with this amount of money; (3) *the standard of living* is represented by the aggregate of consumables which the laborer ought to enjoy, in order to live in conformity with his social rank; (4) *the cost of living* is the sum of money required to obtain this aggregate of goods and services. If nominal wages are high, the laborer can, not only maintain the customary standard of living, but can lay a little money aside. Again, if prices fall, he can maintain his rank with a smaller expendi-

ture, and the cost of living decreases. It is true, however, that if the lower level of prices becomes permanent, the laborer gradually acquires new wants which are satisfied by means of the surplus, and in this event the standard of living rises. It may also happen in the latter contingency that nominal wages fall. At any given time the standard of living is nearly the same for all laborers of the same class, but the cost of living will not be the same for a family having six children and a family having none.

Mr. Gunton, who proposes the standard of living as the regulator of wages, attempts to explain what determines this standard. He cannot say that what the laborer buys is determined by what he has to spend. According to his theory this would be taking effect for cause, and in consequence he is forced to invoke usage, habit, education by social environment.³³ Mr. Gunton is right in a way. These conditions do exercise a great influence upon the establishment and maintenance of the rate of wages. But what creates custom? The customs of civilized people have undergone a radical change in the last century: Prof. Newcomb's fable of the archangel Michael gives us an idea of the change in the habits of American laborers. Among the many causes which have contributed to produce this change, the principal one is the general increase of wealth. And the wealth of the laborer is his wage.

Mr. Gunton believes that his theory explains the existence of that class of working people who are continually involved in the direst struggle to make ends meet. He maintains that in certain families, because of poor management or unusually heavy expenses, the cost of living has risen to the exact level of nominal wages, and that these families determine the general rate of wages in the group to

³³ *Wealth and Progress*, p. 187. The opinions maintained here were first presented in the *Yale Review*. They have been criticised by Mr. Gunton in an article published in *Gunton's Magazine*, February, 1897.

which they belong." The author thus makes an ingenious application of Ricardo's law of rent to the wages of labor, by assuming that in every class of labor wages are fixed by the maximum cost of living of the laborers necessary to produce the required output. But he takes no account of the elasticity of the laborer's budget. At any given time and market the price of wheat may be substantially rigid. But this is not true of the cost of living which is more elastic and contractile. As an American said to me: "Whatever his wage, the laborer lives." Mr. Gunton might have added that there are families whose earnings are at times, or indeed as a general rule, insufficient to provide them with the bare necessities of life, whose poverty amounts to actual indigence. They find a market for their labor, but they do not regulate the rate of wages.

The standard of life undoubtedly operates, but it acts rather to retard and soften a precipitate fall of wages, than to force wages up. A comparison will help to make my thought clear. If we plunge a cork into a stream, it promptly ascends to the surface: but the surface may be higher or lower, relatively to the bank of the stream. In a similar way the rate of wages naturally tends to seek the level required by the standard of living, and if it accidentally falls below this level, exhibits a strong tendency to find it again. But the standard of life itself may vary like the general level of the stream. Surely it is unnecessary to repeat that the variations of the standard are dependent upon the general state of social wealth, upon the rate of wages itself which is intimately connected with the state of wealth, and upon consumption, productive or unproductive, in which this wealth manifests itself.

Prof. Simon Newcomb has endeavored to show "that it is physically and mathematically impossible that higher wages should enable the great masses of people of the country to get more or better food or clothes, unless more

²⁴ *Wealth and Progress*. Section ix, "The Standard of Living."

or better food and clothes are made," and that "if all these improvements are made in production we are sure to get the advantage of them, no matter whether our wages are increased or not."³⁵ I have already pointed out the weakness of this argument.³⁶ No one denies that if the volume of production expands, prices will fall, and, other things remaining the same, the laborer will profit by the fall of prices. On the other hand, if a restricted group of workmen secures an increase of wages, other things remaining the same, they will either save more money or buy more commodities, and for that particular group the standard of life will be elevated. Either result is a fortunate change for them.

A sudden increase of wages does not always produce good results. Employers are sometimes heard to say: "High wages cause drunkenness and vice." These men mistake the exception for the rule. A sudden lucky wind-fall frequently turns the head of the happy recipient, and is frittered away in idle extravagance or something worse. It is very possible too that a few of the better paid workmen acquire unnecessarily expensive tastes and habits. But it is wholly misleading to pretend that the steel-roller who makes \$6 a day is more vicious than the day-laborer who makes only \$1; on the contrary his life will probably be more refined in every respect. There is a great deal of justice in Mr. Gunton's remark: "When the dollar comes before the want it is very *liable* to be wasted; when it comes as a result of the want it is *sure* to be utilized." In other words it is necessary that the standard of living should have time to develop if advances in nominal wages are to be absorbed and utilized.

Comparison with the budgets of European workmen.—Prof. Engel made a study of this question forty years ago in Saxony, and as a result of his investigation published estimates of the proportional expenditure of workmen which have

³⁵ *A Plain Man's Talk*, pp. 155, 160.

³⁶ *Supra*, ch. viii.

become classical. Among the higher classes of laborers, one-half of the income is spent for food: the lower classes spend about three-fifths for this purpose."

In the United States where wages are high the latter proportion, or less, holds good, and except for the New Jersey weavers and the mattress-makers of Wisconsin, this statement may be accepted with practically no qualifications.

In one of the reports of the Commissioner of Labor of New Jersey a table of this nature for New Jersey is presented, and compared with a similar table for Great Britain (1883). The differences between the two are slight. A little more was spent for rent and lighting in the latter country, the difference being made up from the miscellaneous expenses, and clothing cost as much as in America within two per cent."

In the investigation conducted by the Commissioner of Labor of the United States, the European section of which was in charge of Dr. Gould, the comparison of budgets between \$400 and \$500 showed almost exactly the same results for clothing, heating, and miscellaneous expenses in the United States as in Europe. The proportion devoted

⁷⁷ Relative expenditures according to Engel:

	Workmen with incomes ranging from \$225 to \$300.	Incomes from \$750 to \$1100.
Food	62	50
Clothing	16	18
Rent	12	12
Heating and lighting.	5	5
Education	2	5.5
Taxes, etc.	1	3
Health	1	3
Amusements	1	3.5
	100.0	100.0

⁷⁸ Relative expenses of the laboring family in Great Britain in 1883:

Food	51.4
Rent	13.5
Clothing	18.1
Lighting and heating	3.5
Miscellaneous	13.5
	100.0

to food was a little lower, and that devoted to rent a little higher, in the United States than in Europe. The rent item is a still greater burden in America among laborers with smaller wages.³⁹

So much for relative expenditures. It is also interesting to compare the actual expenditures. In the investigation of the textile industries made by the commissioner of labor, the average earnings of 1585 American families were found to be \$514. The mean income of 334 European families was \$352.⁴⁰ The average expenditures were as follows:

	American laborers.	European laborers.
Food	\$211	\$156
Rent	75	38
Clothing	69	47
Heating	31	16
Lighting	5	6
Miscellaneous	90	69
	<u>\$481</u> ⁴¹	<u>\$332</u> ⁴¹

Assuming that prices are the same in the two continents, the only possible conclusion seems to be that the American workman lives more comfortably, is better fed, better lodged, better clothed, spends more for sundries, and necessarily more for fuel, than the European.

The Belgian workman,⁴² whose food and pay are both

³⁹ Results of the investigation for "normal families," *i. e.* families consisting of husband, wife, and five or more children, living in a rented house. The investigation covered 2562 American, and 703 European families.

INCOMES FROM \$400 TO \$500 ASSUMED
TO BE REPRESENTATIVE.

	United States.	Europe.
Food	45.08	48.20
Rent	15.29	11.42
Clothing	14.38	15.08
Heating and lighting	6.62	6.24
Other expenses	18.63	19.06

Seventh Report of the Commissioner of Labor, p. 864.

⁴⁰ *Seventh Annual Report*, p. 1932.

⁴¹ There was a surplus of receipts over expenditures.

⁴² Average wages according to this investigation were 4 fr. 10 c. per day for male workmen, and 1 fr. 15 c. for women.

poorer than those of the American, spends more for food in proportion to his earnings than the latter. This result, quite in accordance with well-known laws, is brought out in the Belgian investigation of 1891. The relative expenditures of the average Belgian workman's family,⁴ based upon 188 families, are shown in the following table. Only those industries are mentioned in which some one of the expenses is at a maximum or minimum.

	MAXIMUM.		MINIMUM.	
	Per cent.	Industry.	Per cent.	Industry.
Food	65.6	Cotton.	52	Clothing.
Rent, clothing, heating, lighting	39.0	Clothing.	27.6	Mining.
Luxuries.....	7.7	Woolen.	2.2	Cotton.
For moral, religious, and intellectual needs.....	3.5	Glass.	1.0	Woolen.

In 1853 a similar investigation was made by M. Ducpé-tiaux. A comparison of the two studies shows that there has been an improvement in the material condition of the Belgian workman during the last forty years. He consumes more than three times as much meat and one and a half times as much vegetable food as in 1853, and yet he spends a smaller proportion to-day upon education, periodicals, and insurance—with the possible exception of mutual-aid societies, to which most Belgian workmen belong—than the American workman. Among his luxuries beer and liquors occupy a much too prominent place, and this place unfortunately has increased in relative importance since 1853.

In 1890, under the title *Cent Monographies de Familles*, Cheysson and Toqué published a summary of those intensive studies of individual families made by Le Play and his disciples. Nine of the fourteen Parisian families—not all workmen's families however—spent more for food than for everything else combined. Twenty of the thirty-eight

⁴ *Salaires et Budgets Ouvriers en 1853 et en 1891*, by E. Nicolai, chief of division to the *Ministère de L'Interieur*, 1895.

French families outside of Paris and thirty of the forty-eight families outside of France did the same, the proportion devoted to food being in excess of 70 per cent in some cases. One métayer farmer in the province of Rome, a vine-dresser, devoted 75.9 per cent to food." These are individual cases of which no general average is taken, though the majority are quite in accordance with the general proportions ascertained in wider statistical investigations. All of the cases are not typical however, by any means; the day-laborer of Paris, for instance, spent only 54.5 per cent for food, although his family was very large (11 persons). The proportion devoted to lodging seems to be lower in general than in America, and to vary much more widely—from 2.1 to 14.4 per cent. Clothing on the other hand seems to occupy a far more important place, exceeding 15 per cent on the average, and rising in a few cases to more than 20 per cent.

In one of his latest studies " Dr. Engel has endeavored to show the growth of certain expenditures in the following way: Starting from the Belgian statistics prepared by M. Ducpétiaux in 1853, he represents each item of budgets less than 600 francs by unity, and from this basis calculates the relative growth of each item as the income increases. The items in which the increase was most marked are as follows:

" Details concerning the different kinds of food are given. In general, the cereals play a very important part.

" *Die Lebenskosten Belgischer Arbeiter-Familien Früher und Jetzt.* See *Bulletin de l'Institut International de Statistique*, vol. ix, part i, p. 41. Dr. Engel's method consists in gathering as many family account books as possible and calculating his results from these alone. He considers the books more trustworthy than *viva voce* answers to an investigator, because they cannot be specially prepared for the occasion. This data Dr. Engel uses to calculate the cost of rearing an adult male—a very doubtful calculation. He takes as his unit the cost of an infant during the first year of its life, and increases this geometrically by one-tenth each year, stopping at the twentieth year in the case of females and at the twenty-fifth year in the case of males. Taking 100 francs as the expense during the first year, he finds that a woman twenty years old has cost 4200 francs, and a man twenty-five years old, 5850 francs.

	Less than 600 francs.	600 to 900 francs.	900 to 1200 francs.	1200 to 2000 francs.	More than 2000 frs.
Insurance.....	1	7	12	18	112
Drink.....	1	3.1	5.9	12.1	27.8
Guarantee of rights	1	2.7	8.5	19.1	25.0
Miscellaneous	1	14.5	8	17	21.5
Intellectual needs.	1	2.5	6.8	20.7	17.8
Health.....	1	1.5	3.2	5.4	9.8
Clothing	1	2.1	2.8	4.4	7.0
Meat	1	1.7	3	4.9	6.8

It should be noted, however, that several of these items represent only a very small part of the aggregate expenditures even in the higher budgets. Thus, while 17 per cent is spent for meat in budgets of 2000 francs or more, and as much for clothing, insurance absorbs less than 1 per cent.⁴⁶ The difference becomes more pronounced as the income increases. Thus, the head of a bourgeois family whose expenditures exceeded 20,000 francs, published his family budget in the *Journal de la Société de Statistique de Paris*. Scarcely 30 per cent of his total expenditures went for food, but the miscellaneous expenses absorbed 28 per cent, almost half of which was spent in the satisfaction of intellectual wants.⁴⁷

⁴⁶ It is worthy of note that in Dr. Engel's statistics the food index is very much higher than in most of the budgets I have cited: 71.5 per cent in the lowest class (incomes less than 600 francs) and 64.8 per cent in the highest class (incomes more than 2000 francs).

⁴⁷ The budget was as follows:

	Amounts.	Per cent.
Food	6158	29.4
Clothing	2630	12.7
Lodging	3391	16.4
Furniture	379	1.8
Heating and lighting ...	888	4.3
Servants and workmen .	1495	7.2
Miscellaneous, to wit:		
Culture	2715	13.4
Travel	965	4.6
Amusements.....	396	1.9
Gifts.....	920	4.5
Medicine and medical attendance	665	3.4
Sundries	70	0.4
	20,672	100

Real wages, nominal wages, and the general well-being of workmen in Europe and America: conclusions.—The question of the excess of receipts over expenditures is one of great importance in the study of the workman's family, for it is this surplus, generally speaking, that enables the workman to improve his social standing or to live comfortably during his old age. But this surplus as we have shown is not the only index of the well-being of the workingman. The sensible man lives for the present although he does not forget the future; his wants increase with his income, and in all classes of society he augments his pleasures in accordance with the increase of his wealth. This development of the comfort of life, I might almost say of life itself, is perfectly legitimate so long as the wants work no injury to others and are kept within the means of satisfaction.

Wages are higher in America than in Europe, and as a consequence the American workman develops more wants, and enjoys greater comfort than the European workman. Mr. Gunton has explained why the American workmen find it almost impossible to live on wages that enable the Italian immigrants to save money. The explanation is found in the simple fact that the two classes regulate their lives by different standards: the American standard leaves a large margin for the Italian laborer.⁴⁴ I called attention to this fact at the beginning of the chapter, and now before summarizing the results of the chapter, I repeat it, in order that it may be perfectly clear.

1. Political economy teaches that real wages are equal to nominal wages multiplied by the coefficient of the commercial power of money.

2. Food, fuel and kerosene are cheaper, or at least no higher, in the United States than in France; cloth and clothing are probably as cheap, and rents are quite as low when the size of the lodging is considered. The objects of ordinary consumption, then, quality and quantity being the

⁴⁴ *Wealth and Progress*, p. 95.

same, *cost rather less in the United States than in France*, and the prices paid by laboring people in the great cities of the United States are certainly as low as those prevailing in the larger French cities. Consequently if nominal wages are nearly twice as high in the United States, *real wages must be fully twice as great*.

3. Their high rate of wages has created among American workmen a standard of living *that is superior to that of French*, and probably to that of English, workmen. The life of the American workman is broader, his comforts far more numerous. This superiority shows itself in almost every line of expenditure; in his food which is more substantial and abundant if not more varied; in his expenditure for dress; in the conveniences of his dwelling; in the amounts devoted to travel, amusement, and moral needs, to trades-unions and insurance of various kinds. Another indication of the same fact is found in the relations between the several expenditures of his budget; he spends less than one-half of his earnings for food, while in other countries about three-fifths are spent for food. It is true that he is occasionally wasteful; this is one of the defects of his education. It is also true that he spends nearly all he makes; but this is merely his right. If in one way or another he manages to make some provision for the future, he has saved himself from the reproach of prodigality.

4. One frequently hears the remark that it costs the American workman a very great deal to live, and this is true. The social power of money is lower in America than in Europe. But this merely signifies that the American workman must satisfy a greater number of wants if he would retain the high social position in which he is placed. His wants being more numerous he must spend more money. If a reduction of wages or the loss of his place forces him temporarily to retrench a little, he thinks himself very unfortunate and feels the privation keenly, just as everyone does in any class of society who is obliged to dispense with some of his usual comforts. With a dollar a day the

American workman is in distress; the French workman gets along nicely on five francs, or even less.

5. Beneath the average class of workmen—those that earn two dollars a day—there is a mass of laborers who cannot attain this standard of living because they are without special training and have nothing to offer but their labor. Their life is painful because they cannot live like their fellows.

6. Below this class in turn, there are in America as in Europe, a great number of people who are unable to support themselves in any way, and in the great cities one can find the most distressing misery. Here, poverty becomes the most painful pauperism.

7. *The nominal wages of American workmen have risen almost without interruption since 1830.* The interruption caused by the régime of paper money was apparent, not real.

8. From 1830 to 1860 wholesale prices increased, but only about one-fourth as much as wages. From 1860 to 1891, disregarding the inflation produced by the issue of paper currency, prices fell 9 per cent. It follows that from 1830 to 1860 real wages increased a little less, while from 1860 to 1891, they increased a little more than nominal wages.

A Philadelphia workingman told me that a laborer could save money on \$9 a week if he had a wife who was a good manager, while at St. Louis another workingman told me that it was very difficult to support a family on \$10 a week. In the familiar table talk of several workmen, which I once overheard, the men cited instances of fellow workmen who owned two or even three houses, and debated whether a weaver or cigar-maker on \$15 a week could buy a home. One answered "no," another, "yes, if he stints himself, although the American workman is not given to that." How many French workmen are there who would regard 45 or 50 francs a week as the minimum upon which to support their families, and who with such wages would think

it impossible to acquire real estate? The difference in the standard of living lends a different aspect to the question.

This does not imply that it is impossible for the French workman to make both ends meet, to use a popular phrase. It would probably be impossible for an American workman suddenly removed to France, and in any event he would feel the hardship very keenly. The European removed to America, however, thrives upon the change. At first perhaps he accepts a reduced wage, but he quickly puts himself in touch with the new conditions. Here we have at once the explanation of immigration and of the antagonism which it arouses among Americans.

Neither does this imply that the American finds it an easy matter to live within his income. He must live as his neighbors do, and this requires practically all he earns. Let something happen to reduce his earnings or increase his expenses, and immediately there is a deficit. Such incidents are common enough in the lives of laboring men.

The American purchases about twice as many useful and agreeable things with his wage of \$2 as the Frenchman does with his 5 francs; but he is far from appreciating the difference. He gives no more thought to what the Frenchman receives than the Frenchman gives to the Hindoo and his earnings. With him, as with most men, enjoyment has dulled the edge of appetite. If on the contrary he suddenly finds himself reduced to \$1.50, he feels the privation keenly because a number of his wants must go unsatisfied. But we must not conclude that the uplifting of the standard of life is a matter of indifference, because the appreciation of the change is not permanent. Man lives by wealth, and although wealth is not the sole end of life—indeed it is far from being the only practical end—it conditions his material existence, and facilitates the development of his moral life. Comfort is an end in itself, independent of the subjective pleasure it connotes. It becomes the more important politically and the more interesting to mankind as it descends into the lower strata of society where want and misery are

perennial, and where it ameliorates the condition of the masses who live from hand to mouth, always exposed to the loss of their small earnings by physical accidents, such as sickness, and by economic accidents, such as loss of work.

The increase of real and nominal wages, and the growth of wealth showing itself in an elevation of the standard of living and in a diminution of the social power of money—two expressions of the same fact—are conditions not peculiar to America. The improvement is due to the progress of agriculture and manufactures on the one hand; and on the other, to the abundance of capital, the demand for labor, the spread of education, the formation of trades-unions, and the increase by modern machinery of the productivity of labor.

I have described this movement and attempted to give an estimate of its ultimate destination in my work on the French population.⁴⁹ In England Sir Robert Giffen and other economists have done the same, and more recently the Royal Commission on Labor adopted the same view as the final conclusion of their last report.⁵⁰

⁴⁹ See *La Population Française*, vol. iii, p. 86 *et seq.*

⁵⁰ The passage is worthy of citation here:

"The impressions left by the evidence as a whole is that among the more settled and stable population of skilled workpeople there has, during the last half century, been considerable and continuous progress in the general improvement of conditions of life, side by side with the establishment of strong trade customs adapted to the modern system and scale of industry. Experience may fairly be said to have shown that this part of the population possesses in a highly remarkable degree the power of organization, self-government and self-help. Work people of this class earn better wages, work fewer hours, have secured improved conditions of industrial and domestic life in other respects and have furthered themselves through trade unions and friendly societies. . . .

"The classes who compose the lower grades of industry, regarded as a whole, have probably benefited no less than the skilled workers from the increased efficiency of production, from the advantages conferred by legislation, from the cheapening of food and clothing and from the opening out of new fields for capital

and labour. Of the mass of wholly unskilled labour part has been absorbed into higher grades, while the percentage of the total working population earning bare subsistence wages has been greatly reduced. . . .

"There is still a deplorably large residuum of the population, chiefly to be found in our large cities, who lead wretchedly poor lives and are seldom far removed from the level of starvation; but it would seem that, not only the relative, but even the actual, numbers of this class also are diminishing." *Royal Commission on Labour, Fifth and Final Report, Part I, p. 24.*

CHAPTER X.

PRESENT CONDITIONS AND FUTURE PROSPECTS



The point of view of the author.—In the series of chapters comprising this work I have described in their various aspects the material and moral conditions of the American laborer, showing him first at his work and then in his family, describing the relations existing between him and his employer, and voicing his aspirations for social betterment. I have tried to draw a portrait which, if not complete, is at least honest.

To complete the portrait little remains but to collect here the many and at times incongruous characteristics which have already been separately sketched. Economic history, like history in general, is seldom characterized by the uniformity of the monograph. It is a drama in which move an infinite number of figures, isolated and united, harmonious and opposed, pursuing ends which are varied and variable, swayed by passions which arise both from their interests and their feelings. Everything cannot be put upon the stage, and what to select is as delicate and important a question for the economist or historian as it is for the dramatist.

I have chosen without partiality and, I trust, without national prejudice. The inclination to misjudge people of another nationality is general. We imbibe, with the very air we breathe, a spirit of national vanity that leads us to believe ourselves better than others, and growing accustomed to a certain manner of living and thinking, we feel a certain surprised contempt for those whose habits are

not like ours. Neither the French nor the American people—I refer to these nations only at this point—are free from this fault. The Frenchman, workingman or bourgeois, finds American life little to his liking. When he travels through America he thinks the hotel fare poor, for the most part, and the service costly. When he settles in America, he is apt to complain of the selfishness of business men and the lack of sociability, and it is with difficulty that he accommodates himself to the great freedom which children, particularly the girls, enjoy. Yet the young girls, particularly in the better classes of society, are much better than he imagines; and in their business dealings the Americans are as punctilious as other people. In America, on the other hand, the opinion prevails that the French are frivolous, noisy and dissolute. This is, of course, a mistake, to be accounted for by the fact that most Americans who visit Paris frequent the public places without entering into the family life of the middle classes; while those who judge France without leaving America—perhaps I should say the women, for it is the women who do most of the reading—read little except our novels, and their choice of these is not always the most wholesome.

There are Frenchmen, perhaps, who think my picture of American industry and the condition of the American laborer far too flattering, because it does not agree with what they have imagined or with what their favorite social theories have led them to expect. There will undoubtedly be American critics also who, in their anxiety about the difficulties which now retard and at times threaten to reverse the march of progress, will accuse me of undue optimism in my treatment of American industry, and of undue leniency in my treatment of the American laborer. Other American critics, on the contrary, will find me too distrustful of their aspirations. I have given the facts. It is quite possible, however, that unintentional errors have crept in, and I am ready to revise my judgments in every case in which it is demonstrated to me either that the facts

are inexact or that they have been so grouped as to be misleading.

PART I.—PRESENT CONDITIONS: A RECAPITULATION.

The first part of the present chapter consists of the conclusions established in the preceding chapters. With a few slight changes, this résumé follows the arrangement of matter in *L'Ouvrier Américain* paragraph by paragraph.

I.

American industry has undergone a magnificent development in the last century, and particularly in the last fifty years. Production increased almost fivefold in the thirty years 1860-1890, a record that is unequalled by any other of the great nations of the world. This industrial growth has characterized New England, where American industry was born and where it still keeps its firmest foothold; it has kept pace with colonization in the Mississippi valley, which in some lines now disputes the supremacy of the Atlantic and Pacific coasts; and now it is beginning to transform certain sections of the south. At the census of 1890 the manufactured products for the year 1889 were valued at \$9,372,000,000.

II.

Concentration is one of the marked tendencies of American industry. In large manufactures the number of establishments decrease while production increases; in the manufacture of agricultural machinery, for example, there were 2076 establishments in 1870, with an output valued at \$52,000,000, while in 1890 the establishments numbered 910, and the production was valued at \$82,000,000. Small manufactures are losing ground and even those of moderate size are scarcely holding their own. Economists have raised the question whether some means will not be found, like the distribution of electricity, in small quantities, to

check this movement and give the advantage to the small producer. It is certainly possible for electricity to prove serviceable in domestic industry, but economy of power is not the only advantage of concentration, and it is probable that the next generation will see a fuller development of this tendency which has already become so pronounced. The abundance, speed and cheapness of transportation facilitate the ease with which enormous capitals are collected in the form of shares or stock, the necessity of machinery adapted to cheap production, and the rapid increase of a population that consumes a great deal, and in numbers now approaches 75,000,000, are the principal causes of this phenomenon. But machinery and transportation facilities will not be lacking in the twentieth century; on the contrary, they will be improved, population will increase, although the rate of increase will probably diminish, and it is more than probable that capital will increase.

On the other hand, nothing justifies the supposition that there will be an abatement of that spirit of enterprise which has characterized the American people so long, and contributed so much to the formation of vast enterprises. Nor will the trust and the various forms of association that attempt to control the market by the power of combination be abandoned. The laws against trusts have, and will be, practically impotent; as futile as the warning given by President Cleveland in his message of December 7, 1896, in which he denounced these colossal combinations as injurious to the development of trade. There is a reason for their existence, as they undoubtedly result from the freedom of industry, a freedom they now threaten to subvert. The same necessity for combination—I do not say monopoly—imposes itself on all the great manufacturing nations which desire to meet competition and hold or enlarge their place in the markets of the world.

III.

The inventive spirit is characteristic of the American; the annual number of patents awarded by the government is

proof of this. He is always in search of improvements. With the possible exception of the English, no people use machinery so freely in small as in large industries, nor is there any people more eager to find, or more prompt to adopt, any improvement, mechanical, physical or chemical, which has for its object economy of labor or the acceleration of production. Invention is stimulated by the character of the people, by the pressure of competition, and by the high rate of wages.

The machine begins as the servant, but it ends by being master, and its general adoption is hastened by the fact that although the first to use it do so for the increased profit it brings, the mass of producers must adopt it to avoid bankruptcy, cost what it may. The frequent renewal and rapid amortisation of plant are consequences of the intensity of competition. The result is cheap and abundant production.

As for wages, the higher the rate, the more economy in substituting machinery for labor; and again, the greater the productivity of machinery, the higher the possible range of wages.

IV.

Skillful, rapid and accustomed to work with powerful machinery, the American workman is generally diligent and active. He is paid well and his employer will not tolerate indolence. *The productivity of labor* in America may be considered high in comparison with that in most European countries.

V.

Does machinery drive out the workman? The prevalent opinion among the people is that it does. The people judge by appearances, and there is no doubt about the apparent effect of machinery upon the workmen: the machine does the work of a man, often of a great number of men, and it frequently happens in a factory that the labor-force is reduced when machinery is introduced. It is no consola-

tion to the workman to know that society is being benefited by the cheaper production when he is without work and wages, or when the competition of the unemployed lowers the rate of his wages, and he sees day-laborers filling the former places of skilled artisans.

All economic developments destroy capital as well as displace labor and inflict suffering upon individuals which social sympathy strives to mitigate. It would be unjust to judge them by a single, temporary consequence; they must be judged by the sum total of their effects, good and bad, over a series of years.

To appreciate the mission of the machine it is necessary to remember that it began with the first tool man learned to fashion, that it is impossible to assign it bounds and limits, that we must not only accommodate ourselves to it as a necessity, but welcome it as a boon. Looking beneath the surface, it becomes apparent that in spite of the difficulties of the transition, machinery increases the demand for labor by stimulating and cheapening production; the increased demand may occur in the industry in which the machine is introduced, or it may arise from the creation of new industries, but nowhere is there so much money paid in wages as where machinery is common.

Experience proves this in Europe and America. In the United States, the censuses show that the number of workmen is increasing, not only in absolute numbers, but in proportion to the whole population, and that consumption has developed sufficiently to absorb the whole surplus created by the increase of labor-force and the improvement of tools and machinery.

As I have shown, the fear of the laborer that machinery will supplant him dates from an early period. In France, in 1829, the Saint-Simonians bewailed the idleness for which they believed machinery was responsible, and repeated the cry of Sismondi: "While we wait, what is to be done with the thousands of starving men?"¹ Since that time not only

¹ *Exposition de la Doctrine*, p. 91 (Edition of 1866).

thousands, but millions, have found employment in factories equipped with machinery.

The specific compensations which the working class has received for temporary periods of enforced idleness are these: a greater demand for labor, higher wages arising from the greater productivity of labor, and cheaper commodities. In the last benefit the whole of society participates.

The constant improvement of tools, machinery and the processes of production, and the adoption of these improvements in industry, are certain; it is a simple application of the principle of maximum return for minimum effort. One does not have to be an economist to understand this. We but turn our backs upon progress and attempt the impossible when we try to block this movement, for the competition of producers and the industrial rivalry of nations brush aside the impediments which law or custom set in the way of progress; all this is involved in the principle of minimum effort, which is advantageous to the general welfare and one of the laws of political economy. There is no incongruity, therefore, in congratulating humanity upon the benefits of the machine; the reasonable thing is to seek some means other than its suppression, to mitigate the temporary hardships which it often causes.

VI.

The question whether supply determines demand or demand determines supply is a disputed one in economic theory because in reality they react upon each other.

The Americans pride themselves on having a higher consumption *per capita* than any other people, and several of their economists regard this high consumption as an industrial stimulus and the cause of high wages. We shall return later to the second proposition, which the labor party has adopted virtually as an axiomatic truth, although it would be more logical to reverse the terms or to say that it is the abundant production of wealth which is responsible

for the high wages. As for the first proposition, it is undeniable that a high *per capita* consumption stimulates production by absorbing products. With high wages, with habits of comfort among the masses that are fostered and developed by the prevalent democratic spirit, and with a population of seventy-five millions that increases more than a million and a half every year, the United States call forth, and for a long time will continue to call forth, an increasing and, above all, a cheap production.

As stated above, machinery is a powerful factor in producing this abundance, and its net effect upon wages is beneficial. But does machinery cause over-production? It can bring about a certain congestion at a fixed time and place, as any sudden increase of supply may do; but so long as there are buyers, one cannot say there has been over-production, that is, production that is superfluous or unsuited to satisfy a want.

The number of buyers of a commodity will increase, if not indefinitely, at least in a proportion that has no definite connection with the decrease in the price of the commodity, and the manufacturer usually has such a diminution of price in view when he adopts new machinery. If his calculations have been correct, he creates his own market; if not, he ceases to produce. The equilibrium between production and consumption is always unstable; it is established one moment, displaced the next, and is then re-established of its own accord. As the actual needs of humanity are far from being fully satisfied and are always capable of indefinite extension, we must conclude, in a general way, that *there is never too much wealth in the world.*

VII.

The *American entrepreneur*, as a rule, takes the shortest path to his goal—business gains. This is why he employs as much machinery as possible and exacts from his workmen all the service they are able to render. He himself, in many cases, has risen from the ranks of the work-

men, or from even humbler employment,² and frequently has never had leisure to acquire the most elementary education; often he has passed through various trades before becoming settled; his knowledge is in proportion to his experience, he calculates, and when he wishes good men and machinery, he pays what is necessary to get them. Intent upon his own affairs and not those of others, he is in this respect profoundly *individualistic*; and while this statement does not necessarily carry a reproach with it, I must admit that it is not always without reason that he is accused, often by his fellow countrymen, of being selfish and hard with his fellow men. He performs his part of the labor contract and expects his employees to perform their part. Then, when the work is done and the wages paid, employer and employees consider their obligations at an end, and in this they are right from the strictly legal standpoint. From a social point of view the result of this exaggerated individualism is a cessation of all relations between employer and employees at the door of the factory, and institutions founded by employers for the benefit of their workmen are less frequently met with than in some countries of Europe; neither class regard them with favor.

VIII.

The explanation is found in the great *independence of American workmen*; he knows that he is the political equal of his employer and he has no intention of subordinating himself by incurring a debt of gratitude. He is in the workshop by virtue of a business transaction and he does not

² An American engineer of French descent told me that it seemed to him more difficult than formerly to place young engineers who had graduated from the universities, because they are less tractable and obedient than the apprentices of former days. It is not only in America that comparisons of this kind are made, but although there are plausible arguments on both sides, I feel certain that a solid theoretical education strengthens and broadens the horizon of the practical workman, and that it is very profitable provided it does not destroy originality.

consider the personnel as a family group of which the entrepreneur should be the patriarchal head. Moreover, he moves from place to place with great readiness, according as his interests lead him. This is at least the most usual type of native Americans. Various types are found among the immigrants, but all of them tend to become Americanized, more or less rapidly.

IX.

Immigration causes great offense to the laboring classes. It intensifies the competition for work, and by continually increasing the supply of labor, depresses wages. In actual experience it has not produced a permanent reduction of the general rate because opposing forces are always at work, but it has certainly counteracted the upward tendency in some cases. Taking a general view of the migration from Europe to America in the last hundred years, one recognizes that this transfer of men, knowledge and capital has made the fortune of the United States, so that in view of the fact that the workingmen of that country are indebted to immigration for their superior condition, they have no cause for complaint.

Excluding Indians, the population of the United States is composed entirely of immigrants and the descendants of immigrants; in three-quarters of a century, 1820-1895, more than seventeen million arrivals were registered. The American people cannot disown their origin and entirely exclude immigrants.

The diverse elements of the population have been fused in an Anglo-Saxon mould. For many years the American people has been subjectively, as well as objectively, a distinct nation, conscious of its own individuality, proud of its progress and its power, vigorous enough to absorb gradually the flood of immigrants who seek its hospitality, refuting by its very existence the aphorism of Joseph de Maistre: "Without a sovereign, no nation; without a nation, no sovereign."¹

¹ *Du Pape*, vol. ii.

England, Scotland and Germany have each sent a large number of immigrants who are generally appreciated; Scandinavians are also plentiful and well liked; the Irish are very numerous, but in general regarded with a little less favor, though they wield a powerful influence in politics and many families of Irish descent occupy high positions; the Italians and Slavs are in the greatest disfavor, and it is these immigrants in particular whom the American workmen reproach for being content with low wages. The Canadians form a group that is looked upon with a little suspicion because they attempt to maintain their race individuality by preserving their language and religion, but the employers appreciate their competition for work in the factories.

The labor party demands laws restricting immigration. The immigration of Chinese has already been prohibited, although they are good workers; but the Americans cannot forgive them for working at cut rates. Criminals and persons incapable of supporting themselves have also been debarred, and this measure had the support of all enlightened people, who agreed that the United States should not be made the dumping-ground of Europe. In the face of the opposition of most entrepreneurs, the labor party secured the passage of a law prohibiting the importation of labor under contract, as it was in this form that the organized importation of "cheap labor" usually took place.

X.

Nominal wages are high in the United States, as they have always been in comparison with European wages. They have risen very perceptibly, perhaps doubled, in the last fifty years, although a similar advance has been made in most countries of Europe. Labor leaders in America are divided in their opinions upon this point; some acknowledge the advance and the consequent increase of comfort, and they argue from this that the advance ought to continue; others—and these are the most numerous and most

hostile to the existing order of things—pretend that there has been a decrease. The error of those who sincerely believe there has been a decrease is partly explained by the nominal elevation of prices, both of labor and merchandise, which was brought about after the Civil War by the use of irredeemable paper money, and by the return of the value of money to its normal level after the resumption of specie payments. I have shown that this fictitious elevation, far from benefiting the workman, in reality lowered his real wages.⁴ On the other hand, the error is partly explained by real, but exceptional, cases of reduction, or by sudden and temporary reductions in times of crisis, as, for instance, in 1893-94.

If the misery of the workingman has grown in the last half-century, it must be terrible to-day, for fifty years ago grievous complaints were common. "Lamentable as is the condition of the laboring man, that of women is worse and increasingly so," announced the New England Workingmen's Association, founded about 1845. Five years later Horace Greeley said at a meeting of printers in New York: "The laboring class, as a class, is just where it was when I came here eighteen years ago, or, if anything, in a worse condition."⁵

The impression brought back by the delegates of the Paris unions to the World's Fair was equally pessimistic, but it is as untrue of America as it is of France: "In a few years, in our opinion, the workingmen of the new world will be as unhappy, even more unhappy, than those of the old world, although the condition of the latter is worse than it has been at any other time during this century."⁶ They are wrong. If their error is involuntary, I refer them to the authorities I have cited in the chapter on the wages of men;⁷ if it is intentional, cast abroad as a firebrand of revolution, facts are powerless.

⁴ See ch. ix. ⁵ McNeill, *The Labor Movement*, pp. 100 and 117.

⁶ *Rapport de la Délégation des Syndicats Ouvriers de Paris à l'Exposition de Chicago*, p. 157.

⁷ Ch. vi.

Wages have a very extensive range in the United States, varying in accordance with the occupation, and in any given occupation, in accordance with the work and ability of the individual workman; this is true everywhere, but it is more applicable to the United States, perhaps, than to certain other countries. Most wages range themselves between those of spinners and weavers who earn from \$1 to \$2 a day, and those in the building trades which vary from \$2.50 to \$4 a day, although some workmen receive less than \$1 and others more than \$4; certain high-grade workmen, steel-rollers and glass-workers for instance, make as high as \$10 or more a day. It would not be far wrong to state that the average rate is somewhere between \$1.75 and \$2, about twice as much as the average rate in France, so far, at least, as it is possible to assign by approximation an average rate to France.

XI.

In America, as in Europe, *the wages of women* are about half those of men, and the wages of children under sixteen less than the wages of women. The inferior physical strength of women, the fact that their position in the family causes them to be supported in a large degree by the wages of men, and the competition which exists in the restricted number of occupations open to them, are the three principal causes of the difference noted. In America married women are much less numerous in the factories than in Europe, a fact which indicates a better condition of things.

There has been a decrease in the relative number of female employees in manufactures, and a greater decrease, apparently, in the relative number of children. But it is incorrect to pretend that the wages of women amount simply to the difference between the present wages of men and what they would receive if no women worked for wages. It is an illusion to believe that the father or husband is alone able to support the family, and it would be cruel to prevent women, either by legal regulation or the

tyranny of labor-unions, from earning something for their own support. Adult women must decide for themselves what is for their best interest in this matter. I do not believe that in the coming generation women will be less eager for gainful employment than at present; on the contrary, I am led to believe that the transformation of industrial methods will tend to multiply occupations for women, in manufactures as well as in office work.

XII.

Starvation wages, that is to say, wages that will not enable the recipient to live as well as the common laborer, are found in America as well as in Europe. In this category may be placed the wage of sweatshop workers, who are found in certain great cities like New York, Boston and Cincinnati, and employed principally, but not exclusively, in the manufacture of ready-made clothing. In face of the efforts made to fight it, the *sweating system* seems to have spread rather than contracted, and it is to be feared that the existing conditions of industry and population will develop it still further, in spite of the efforts being made to restrict it. The evil, which is neither clearly defined, nor clearly definable, fortunately affects only a small part of the working classes.

XIII.

Real wages have risen more than nominal wages in the United States, because the prices of most goods fell as wages rose. Retail prices have fallen much less than wholesale prices, and rents have advanced, so that the net gain to the laborer has been considerably less than that indicated by the statistics of wholesale prices; but there has been a gain. Taking everything into consideration except rents, the ordinary objects consumed by the laborer's family, quantities and qualities the same, cost rather more in France than in America, and this is particularly true of Paris as compared with New York. In consequence, *the*

average American workman enjoys a real as well as a nominal income which is probably more than twice as great as that of the French workman.

XIV.

The use of irredeemable *paper money* during and after the Civil War disturbed values and for a time confused men's ideas about wages. Wages were very high, in appearance, and workingmen were led to believe that the general reduction which followed the resumption of specie payments was real; an incorrect idea, or at least incorrect in the sense that the reduction was in reality due to the great crisis of 1873. The truth is that during that period the working classes actually suffered from the fictitious inflation of prices,* which advanced much more than wages, and they would have suffered more if the intense industrial activity of the period 1863-73 had not created an incessant demand for labor.

XV.

Real wages being higher in the United States, the American workman lives more comfortably than the European, certain grades of English labor excepted. He has acquired settled habits of consumption and enjoyment; his food is more substantial than that of the workman of continental Europe; he dresses better; he is more comfortably lodged, and often owns the house in which he lives; he insures his life, and is provident in his own way; he spends more for

* The free coinage of silver would produce an inflation of this kind. Personal interest will explain why the owners of silver mines advocate it, and the same force will explain why debtors, particularly mortgagers, and even farmers whose products would probably be among the first to increase in price, are in favor of it, although the farmers would not gain as much by it as they think. But it is hard to understand how workingmen, whose wages would rise only after the great mass of prices had risen, are led away by it. The probable explanation is that in economic questions most men do not look beneath the surface, and that workingmen are particularly exposed to error in such matters.

amusement and upon the societies with which he is affiliated: in other words he has a *higher standard of life* than the European workman. Such a condition is one of the most desirable results of civilization, and the American people are justly proud of it.

XVI.

The American workman spends more than the European because his wants increase in proportion to his income. If the American makes \$2 a day, it costs him nearly that amount to live, because the standard of living of his class is based upon this scale. He is obliged, then, to spend his \$2, because the wants which are rooted in his family by custom imperatively demand satisfaction under pain of personal discomfort or loss of social position. The ambition to maintain their social rank and to live as well as their peers is universal among men. From this point of view it is correct to say that the *cost of living is high* in the United States, and although the commercial power of money—that is, the quantity of ordinary consumables purchasable with a stated amount of money—is as great as it is in Europe, it costs more to maintain a given social position in America than it does in Europe; in other words, the *social power of money* is much less.

The American workman has raised his standard of life since the beginning of the present century. But like all men, his desire to acquire the comforts he does not have is keener than his appreciation of those he has, and he aspires to elevate still more his mode of living. He is not alone in making *Excelsior* the motto of his life.

XVII.

One of the questions which curious or restless minds have concerned themselves with is that of *equality in the increase of comfort*;* the question whether the laborer ought

* "There has been great progress in the intelligence of the laboring classes, and political equality has stimulated the desires of the

to feel satisfied with any increase of wages and well-being, or whether he should not have the right of complaining if statistics demonstrate that the general wealth of the community has increased more rapidly than his own income.

Morality furnishes the first reply to this question: it is wrong to stir up envy and needless recrimination in this way. One man receives a gift of \$1000 and we congratulate him; would we approve if we found him growling because a neighbor had received \$10,000 the same day? An increase in the income of any class of society should be judged upon its own merits, in accordance with the standard of life of that class, not some other class. We have mentioned the fact that many American workingmen own their own homes, as a characteristic sign of their comfortable condition; shall these proprietors complain that their houses are not to be compared with the great establishments of the millionaires? And if this comparison does not occur to the workingman himself, do we render him a service by suggesting it?

The statistician has great difficulty in answering questions about the increase of wealth because he rarely possesses a series of national inventories sufficient to measure the progress of fifty years and furnish the numerator of a fraction whose denominator would be the whole population. The most complete and, though still very imperfect, perhaps the best collection of these rare materials, is found in the United States, and I have taken from them the figures necessary for such a comparison.¹⁰ We know, on the one

masses for a larger share of material riches. The means of production have been improved in a marvellous manner, and the increase of wealth has been enormous. The question the laborer asks is not simply whether he receives more absolutely, but whether he receives as much in proportion to what the other classes of society enjoy. His wants have grown, and he is inclined to doubt whether he is as well able to gratify his legitimate needs as formerly." R. T. Ely, *The Labor Movement in America*, p. 304.

¹⁰ As an example of the errors which are so easily made in dealing with these statistics, I may cite a calculation made by Mr.

hand, that the average annual earnings¹¹ of persons employed in manufactures was \$247 in 1850 and \$484 in 1890—a gain of 100 per cent in forty years¹²—while the more comparable returns of 1870 and 1890 show a gain of 29 per cent in these twenty years.¹³ On the other hand, we know that the value of real and personal property *per capita* was \$303 in 1850, \$780 in 1870, and \$1036 in 1890, from which it follows that the *per capita* valuation tripled from 1850 to 1890, and increased nearly 33 per cent from 1870 to 1890. We also know that the aggregate value of the products of mines, fisheries, manufactures and agriculture was \$44 *per capita* in 1850,¹⁴ \$177 in 1870, and \$194 in 1890, an increase of about 10 per cent from 1870 to 1890. Although the statistics are not accurate enough to furnish exact numerical comparisons, the relation between the several rates of increase—29 per cent for wages, 33 per cent for property, and 10 per cent for production—show that the laborer has not shared so badly as some would have him believe.¹⁵

Powderly (*The Labor Movement*, edited by McNeill, p. 579) in which he estimates the profits of employers by subtracting from the total value of products, the cost of materials plus total wages. The result, according to the census of 1880, is \$1,024,791,847, and Mr. Powderly accuses the employers of receiving enormous profits in comparison with the wages paid—\$947,953,795. There is probably no economist, as there is no business man, who does not know that other elements beside wages and the cost of materials enter into the expenses of production.

¹¹ Obtained by dividing total wages by the whole number of employees—male and female operatives, children, office employees, superintendents, etc.

¹² See ch. vi and the reservations made with respect to the accuracy of these statistics.

¹³ \$375 in 1870; \$484 in 1890.

¹⁴ This result is not comparable with the others, as the value of agricultural products is not included.

¹⁵ In France statisticians have figured out an answer to this problem from the official records of bequests and gifts *inter vivos*, which were estimated at about two thousand millions in 1840 and about six thousand millions for each year 1885-95, corresponding thus to a relative income of 100 in 1840 (interest at 5 per cent) and 210 in 1885-95 (interest at 3½ per cent). They conclude that if wages doubled in the interval, the income from real and personal

These percentages do not tell the whole story, because there are certain essential elements which elude measurement. Modern invention, democratic institutions, and the development of highways and public works make certain pleasures far more accessible to everybody, or to nearly everybody, rich or poor, than they were formerly. In the United States, for example, the public schools are free, the public lights, gas or electric, shine indiscriminately for rich and poor, in the cities most people have water in their houses, the street cars and railroads carry with equal speed the laborer who used to walk and the employer who in former times rode on his horse or in his carriage. I have dwelt upon these advantages in my work *La Population Française*; ¹⁰ I merely wish to call attention to them here.

There is one other illusion which it is necessary to dispel. A great deal is said about the right of the laborer to a proportional part of the increase of wealth, on the ground that *his labor created it*. The workman who gives his time and labor for a stipulated wage receives more to-day than formerly for less labor-time and for work that, owing to the use of machinery, has certainly not become more painful. And yet, with certain exceptions, he has no definite and particular share in the increase of wealth produced in a given time; he may possess a certain skill, but so did his forefathers; he may have better tools, but they were furnished to him; he has even learned to protest against the introduction of new machinery. He is an executive agent working with his muscles as his fathers did a hundred years ago, but working with better materials, and in consequence needing greater knowledge and intelligence.

property more than doubled. If their calculation were sound, the difference would not be considerable. But in this form the calculation is misleading, since in order to compare the two terms it is necessary to multiply the rate of wages at each epoch by the number of wage-earners. We do not know the number of wage-earners in 1840, but we do know that it was much less than the present number and that in consequence the comparison should be more favorable to wages.

¹⁰ Vol. iii, ch. iii, *La Population et la Richesse*.

It would be an error to infer from the above that the personal qualities of the workman contribute nothing to the success of the work. I have spoken of these moral and professional qualities in several passages of this work; they are characteristic of the American workman and form one of the most important factors in the productivity of American labor. I never fail to emphasize the importance of these qualities in my lectures at the *Conservatoire des Arts et Métiers*, where my audience is composed largely of workmen, for I am convinced that they are as efficacious in producing harmony in the workshop as in augmenting the production of wealth, and I believe it both just to the workmen and profitable to industry to reward them either by increased wages, premiums or profit-sharing.

But it is no less true that the increase in productivity is primarily due to *scientific discoveries* and the application of science to industry. The inventors do not always reap the profits, although many secure a legitimate recompense by exploiting their inventions, which may or may not be patented. But after a certain time these inventions come to be public property, their principal effect having been to lower the cost of production and render wealth more accessible to the consumer. Such in short is the rôle of intelligence in production.¹⁷

Next to the inventor, credit must be given to the *entrepreneur* for the increase in productivity. The technical organization and commercial management of an industry are essential conditions of economic production and of the advantageous placing of the product; they determine in a large degree the success or failure of the enterprise, and, although the present ten-hour day is no harder upon the laborer than the old twelve-hour day, the entrepreneur works harder and deserves more credit when with his heavy load of responsibility he directs a thousand workmen than when he had only ten to look after. One entrepreneur

¹⁷ I explained this for the first time in *Le Rôle de l'Intelligence dans la Production*, published in 1866-67. See also ch. viii.

grows rich while his competitors, with capital and labor secured under exactly similar conditions, stagnate or fail, and the difference in results can be attributed only to the difference in personalities. The socialists, who try to flatter the workman by telling him that he is the sole creator of value and wealth, turn his back squarely upon the truth.

Mr. Gunton substitutes another question, without going beyond the subject, however, when he defends in place of right to the product based upon economic grounds, the opportunity for enjoyment based upon the social interest. "It is a fundamental law in all growth," he says, "that it should be symmetrical. The top of anything cannot continue to increase in extent and power without the bottom being correspondingly strengthened and enlarged." So it is with society. No portion of it can continuously improve without the progress of the whole. Consequently, the increased wealth, opportunity and freedom of the 'successful classes' can only be permanently secured to them in proportion as the poverty of the masses is diminished and their social opportunities and freedom are enlarged."¹⁸ He may reassure himself, not of the acquiescence of the masses in the conclusions we hold, but of the truth of the fact that except in the lowest depths of society poverty has decreased and certain advantages of life and liberty have increased, in America, perhaps, more than elsewhere.

Is there, then, nothing further to be done? There is much to be done. I shall return to this question further on. I may affirm here that the amelioration of the lot of the masses is one of the most desirable results of civilization.

In recapitulation it may be said that: (1) It is wrong to make ourselves unhappy and lose all enjoyment of our own blessings, because some neighbor is more highly blest; such envy is an injury to civilization and prog-

¹⁸ This statement is correct when applied to a democratic society, but has less application to an aristocratic one. I have expressed my opinion upon this point in *La Population Française*, vol. iii, p. 98.

¹⁹ *Wealth and Progress*, p. 4.

ress; (2) it has not been demonstrated that during the nineteenth century the proportional increase of the income of the laboring class has been less than that of most other classes of society; (3) modern inventions have procured certain advantages which are enjoyed in common by all the inhabitants of a given locality, whatever their social condition; (4) the special contribution of manual labor in the production of wealth is no greater to-day than formerly, although this production is much more abundant; (5) the benefit which the progress of industry and wealth has brought to the laborer is manifested in the elevation of his standard of living.

XVIII.

The social classes of any country are often ignorant of one another, just as nations misunderstand and harbor prejudices against one another. While it is improper to speak of classes, at least of class barriers, in America, the employers are disposed to judge harshly of their workmen, as indeed, the workmen are of their employers. Although the *material life* of the laboring classes is inferior to that of the well-to-do in the extent and refinement of consumption, and their *intellectual life* narrower because of early training and the character of their amusements and environment, their *moral life*, though often circumscribed in a still narrower compass, is not essentially different. In his reason and his ideas, his interests and his prejudices, his feelings and passions that are made up of generosity and selfishness, we find man essentially the same in all conditions of life.

XIX.

Man is animated by two sets of feelings, the one individualistic, the other social; the former inspired by his egoism and personal interests, the latter by his sympathy and his weakness. The isolated workman finds himself very feeble before the difficulties of life and particularly in contests with employers over the construction of his labor-

contract. His need of association is greater than that of the higher classes, yet nevertheless it is more difficult of accomplishment for him because his education and pecuniary resources are less, and the large number of members which it is usually necessary to combine in order to form a union, increase the chances of discord and dissolution.

Labor organizations have two principal objects, insurance and resistance, the first assuring by cooperation the payment of a sum of money in case of death, sickness or old age; the second opposing the power of numbers against the power of the employers; at present the second object is often of first importance in American unions. Historically, these organizations date back many years, but it is only in the last quarter of a century that they have spread so widely through the ranks of labor and assumed a political importance.

Provident societies bring to the workman's family a certain material security and give him a proper sense of social relations; they are most commendable. Under the titles of Mutual Benefit Societies, Sick and Funeral Benefit Societies, Endowment Societies, etc., and with diverse forms and varying degrees of solidity, they are encountered in great numbers in all parts of the United States, particularly in the manufacturing districts. All of these are not labor organizations by any means, but workmen are found in most of them, and some are composed exclusively of workmen. A very good type of these associations, and one of the most popular, is the Loan and Building Association, to which I have devoted one chapter of the *L'Ouvrier Américain*.²⁰ While on the whole these associations are worthy of great praise, one necessarily feels uneasy at times over the management of some of them, because the workingman rarely has the time and ability to exercise effective supervision over them and he runs the risk of being swindled by managers who are faithless or incompetent or excessively

²⁰ See ch. iv, part ii.

careful of their personal importance and profit. Yet a great majority of these societies thrive, and association in itself is a profitable education in democracy; in any event the American people have profited by it.

The *union* almost always has the dual object of insurance and resistance; this is why I have not separated the two subjects. It is in part of spontaneous generation, a result of popular freedom; in part it is of English, and in a smaller degree, of German origin, the German union being more strongly impregnated with socialistic theories than the English. Unions have multiplied rapidly, especially since 1880, so that now they are numbered by the thousand, some of them very powerful; a dozen unions or more claim membership of more than 20,000. In addition, huge federations have been formed. The Order of the Knights of Labor was modelled on Masonic lines and still remains in part a secret order. At one time it claimed to be uniting the laboring classes for the conquest of society by means of political control and a cooperative organization of production and consumption. In 1880 it counted its members by the hundred thousands, but it has lost its standing through failure to accomplish what it promised and by having antagonized the local unions. The place in the popular favor formerly held by the Knights has been taken by the American Federation of Labor, which with more discretion attempts to combine the unions without encroaching upon their independence. The American Railway Union, organized in the midst of the troubles of 1893, and at its very formation cast into a violent struggle, occupies a position of but mediocre importance.

I have pointed out both the advantages and disadvantages of labor-unions.²¹ The former consist of the aid which members render one another as men and the power of organization to serve their interests as wage-earners. American unions pride themselves upon being the cause of

²¹ *L'Ouvrier Américain*, ch. ix, part i, and ch. v, part iii.

the rise of wages, and although this claim is too pretentious, they have unquestionably played a prominent part in securing certain advances. The disadvantages consist of their efforts to monopolize the labor market, physical and moral violence towards employers and non-unionist laborers, and chimerical ideas of social transformation which they entertain in proportion as they approach "New-unionism" and are or are not of recent formation. In their relations with employers workmen are very jealous of their independence, but as unionists they submissively accept the absolute power of the leaders and instantly abandon their work and livelihood when the order is given; such is their faith. In the larger organizations particularly, the leaders pride themselves upon being moderators and healers of differences, but in reality, and especially in the local unions, they are often firebrands and agitators both by temperament and policy, continually awaiting the opportunity for an assault upon capital.

It cannot be denied that a state of civil war exists in the industrial world and that most labor organizations are, as institutions of resistance, mere armed bands ready to take the field. The employers' associations make less noise, but they are no less strongly armed; trusts flourish in the United States. It seems almost idle to repeat that this condition results from misunderstanding, that between the purchaser and vendor of labor there is not opposition but community of interests, and that the three agents of production have the same interest in the prosperity of industry—the common source of the income of each. The state of war exists, and the associations of workmen and employers contribute to render it more threatening.

Does the development of these associations mean a permanent and organized antagonism? Such a prospect almost inspires regret for the disappearance of the mediæval trade-gild, in which master and workman were united, although with a rigid subordination of the workmen which the democratic spirit of our times would not tolerate, and

with more or less monopoly which has been advantageously replaced by liberty. Is it possible that the future will see mixed organizations of employers and employees freely and voluntarily formed, thus retaining the advantages of free contract without the disadvantages of the ancient gild? I desire it more than I dare hope for it. The American Federation of Labor disapproves of such coalition.

And yet, association is a right and the labor-union has become a fact against which it would be both narrow and untimely to protest. In England the labor union is already more than a half-century old, while in France and America it is of more recent introduction; its development constitutes a landmark and inaugurates a new era in the history of the working classes. In America, where they are increasing both in number and power, their growth has been stimulated by the democratic spirit and by the high wages which makes it possible to sustain them. Many large establishments will not employ union workmen and refuse to treat with the unions. On the other hand, there are many employers, particularly in the building trades, who have treated with them and even contracted to employ none but union workmen. Except in the cities, the unions have not as yet succeeded in drawing into their ranks the majority of workmen; but as their animosity, against what they call the exploitation of man by capital, is active and noisy, they attract attention and appear more numerous than they really are.

The union must be allowed to exist. To control the situation, in my opinion, it is even advisable to legalize it in every American state; but at the same time the law must impose conditions that will make the union responsible and prevent it, as far as possible, from degenerating into an instrument of oppression either of workmen or employers. Freedom for all, coupled with effective responsibility before the law and public opinion; this is, I think, the double rule we should adopt.

XX.

There is no doubt that the union has fostered the strike and increased its power. The *strike* is open war. In many cases it occurs suddenly and without preliminary negotiations, but more often it follows the rejection of conditions proposed by a group of workmen. The strike is as old as the wage-earner, but it has only become epidemic since the development of the factory and the formation of great labor-organizations. It might be said, in addition, that the socialistic or revolutionary propaganda has multiplied strikes by stirring up class hatred.

In the past it was an incident; it has now become, so to speak, a social system, characterized by Mr. McNeill, the editor of *The Labor Movement* in the following terms: "The problem of to-day, as of yesterday and to-morrow, is, how to establish equity between men. The laborer who is forced to sell his day's labor to-day, or starve to-morrow, is not in equitable relations with the employer who can wait to buy labor until starvation fixes the rates of wages and hours of time. The labor movement is the natural effort of readjustment—an ever-continued attempt of organized laborers, so that they may withhold their labor until the diminished interest or profit or capital of the employer shall compel him to agree to such terms as shall be for the time measurably equitable."²² It would be superfluous to refute once more the economic error and ill-concealed insinuation of the first sentence. I cite the passage merely to show that the labor party regards resistance and the strike almost as sacred duties.

Carroll D. Wright has said, and justly, that the responsibility for strikes cannot always be placed upon the laborer, as they are caused by the refusals of employers as well as by the pretensions of employees; and he adds that the community of interest which characterizes production does not exist in distribution, where one factor loses what the other

²² *The Labor Movement*, p. 454.

gains. I might add, in turn, that after the stipulated wages are paid, the laborer has no claim upon the profits of the entrepreneur, whatever they may be, just as the entrepreneur has no right of recovery upon the wages he has paid, when his operations result in a loss. When the contract expires the laborer is entirely free to refuse to renew it, and to unite with his fellow laborers in a strike or other combination to obtain better, or defeat the acceptance of worse, conditions. But it is wrong to consider him as a rightful member of the establishment in temporary revolt, and he is wrong when he acts as such. He is a simple workman who has become a stranger to the establishment by the severance of his contract.

But is the strike profitable to the working-classes? A general study covering ten years, which has been made in America, shows that in forty-five cases out of a hundred the strike resulted in a gain to the workmen. This proportion is very high, almost double that resulting from similar statistics in France and England. But the striker is like the gambler, who always hopes that chance will work out in his favor; led on by his passions and encouraged by leaders who promise much more successful results, he risks the throw. If he fails, the time missed and the extra expenses are dead losses to him; if he wins, it is still some time before the extra advantage compensates for the expense incurred.

Like war, the strike is an inherent evil, whatever its result. It is hurtful to industry, causes millions of dollars to be wasted every year, and its mere appearance may send into hiding large sums of money which in times of industrial peace would have been invested in production. And yet, like war, the strike is relatively a rare occurrence, and in a country like the United States involves only a small part of the laboring population in any one year. To the workman the strike is a weapon both of offense and defense, and in the present state of affairs and of public sentiment, there is no power which can prevent its use.

To the conservative workman it is impossible to demonstrate that the laborer always loses by the strike, since there are times when he gains by it. And with the more violent it is useless to make the attempt, since they count upon such agitation and the destruction of industry to hasten social revolution.

In America and England the admission by the courts of the legality of combination has been very gradual. To-day it is denied by none, although the effects of the strike are denounced as extremely unfortunate. Combination is in fact free and the courts do not attempt to penalize it except in cases of actual or threatened violence towards property or persons. It is often difficult to determine where violence begins, but it is very necessary that the responsibility of those who instigate and of those who participate in strikes should be clearly established, and that in the interests of those who wish to work as well as of industrial peace, no one should be constrained either to engage or persist in a strike against his will.

XXI.

The liberty to combine being accepted as a right and as a necessity, and the union maintaining a permanent opposition to the employer, the most practical remedies for the prevention and cure of the strike seem to be *arbitration and conciliation*.

It is important to distinguish between compulsory and voluntary arbitration. The former, by coercing workmen and employers to pay or accept certain rates or to accomplish certain tasks, would bring both industry and labor beneath the yoke of a judicial despotism. It is repugnant to employers because in the substitution of the public authority for the free disposition of the means of production by their owners, they see an element of confiscation; but for this very reason it constitutes one of the most cherished ideals of the labor party.

Voluntary arbitration does not have this inherent vice.

Essentially liberal in origin, it would undoubtedly have a pacifying effect if it came into more general use. It may assume many forms: that of a court of arbiters selected by the contending parties when a difficulty arises, or of a permanent bureau of conciliation and arbitration upon which both interested parties would be represented. Between 1886 and 1895 the federal government and fifteen states passed laws creating, or authorizing the creation, of such institutions, some of which respected individual liberty, while others authorized more or less administrative interference, and one at least rested entirely upon the principle of compulsion.

But up to the present time custom has not taken kindly to this form of regulation; arbitration has been requested in only a comparatively limited number of cases, and the number of disputes settled by arbitration is still more limited. With the workmen, it seems, arbitration is a last resort, to be used only when the strike becomes ineffective, and it is certain that the employers will not permit outside parties to dictate a settlement which is manifestly opposed to their interests. Our experience with arbitration and conciliation is very recent, but it indicates that, however desirable they may be, their application is beset with serious obstacles, not only in the prejudices of workmen and employers, but in the very nature of industrial relations.

XXII.

To unite for the purpose of opposing the concentrated power of capital with the collective power of organized labor is legitimate; it is a right that has been sanctioned by law and custom. Does it follow that there is a necessary conflict of interests between employer and employee? In this debate two opposing tendencies of thought have manifested themselves in Europe and America. The economists, Bastiat in particular, emphasize the *harmony of interests*; and there is a harmony of interests, since both workmen and employers live by production. The socialists

emphasize the *conflict of interests*, and this manifests its real existence in the disputes over the distribution of the product. But when the facts are dispassionately examined it becomes apparent that in a great majority of cases the conflict is occasioned by passion and prejudice rather than by a rational self-interest. To say, as I read in one of the journals of the labor party,²³ that the pretended harmony which is used to justify the economic brigandage known as the wage-system, does not differ from the harmony between the serpent and the bird that he fascinates in order to devour, is merely a proof that the speaker has not studied the problem and that, in order to be free to scatter the seeds of hatred, he does not wish to study it.

The "struggle for life" is a phrase that has, unfortunately, won general acceptance. By creating the impression that the individual thrives at the expense of others and that it is necessary to vanquish or be vanquished in the contest of existence, it gives a misleading idea of the social and economic movement. Men's interests are more often harmonious than antagonistic, and although the highest places are ordinarily to be secured only by the exercise of energy and intellect, it is more fitting to speak of a race over the course of life than of a struggle for mere existence.

XXIII.

I should not have felt called upon to speak of the *protective system* were it not for the noisy election claim that protection benefits both wage-earner and producer: the former by increasing wages, the latter by increasing prices. It is somewhat singular that employers who denounce the adjustment of wages by arbitration as a violation of right should boast of increasing them by law. Moreover it is not certain that wages are increased by protection. Some of the protected industries pay high wages, like the steel industry; while others pay low wages, like the cotton in-

²³ *The American Federationist*, March, 1895.

dustry; and moreover, one does not find the same kind of labor, carpentering or manual labor for instance, receiving higher wages in protected than in unprotected industries.

There is no doubt that if the customs duties were lowered certain establishments would close and that profits would be temporarily reduced in almost every industry. Some workmen would perhaps be thrown out of work, but if the general wealth of the country was not affected by the change, it is hardly possible that wages of the lower grades would fall still lower.

I have shown that wages are not necessarily determined by the price of the product, a good proof of which is the fact that farm-wages rose while the value of agricultural products fell.

XXIV.

I have spoken only incidentally of *public charity* in the United States, which is organized in accordance with the Anglo-Saxon system, and of *private charity*, which in form and function is varied and ingenious, and in individual cases very liberally endowed. Charity is a necessity that becomes more obligatory as society grows wealthier or more able to furnish it, and as the activity of the industrial movement causes more failures or leaves a larger residue in the social depths. Relief is even a moral duty for those who can extend it, although this does not create a correlative right to relief in those who have need of it. We understand now that charity supports and does not suppress poverty; it is a palliative and will never be a remedy.

XXV.

Real remedies, which if not sovereign are at least efficacious, have been discovered in what I have called *social and industrial patronage*. Animated by a sympathy engendered of religion, philanthropy or patriotism, man extends the hand of friendship to some one in an inferior condition and aids him to live, to educate himself, and im-

prove his morals; this has been called social patronage. Animated also by sympathy, but in the further interests of his establishment and its personnel, the employer directs himself to the creation of bonds of mutual interest between himself and his employees, that will increase their security and comforts and advance his interests by promoting harmony in his establishment and peace in the industrial world; this has been called industrial patronage.

Institutions of social patronage are numerous in America, and have diverse aims. I refer the reader to the chapter²⁴ in which I have explained the principal types and shown that social patronage, like charity, is very active in America.

There are but few examples of industrial patronage in America, although some of these are very meritorious, and until the present time its success has been very modest where tried. The character of certain European peoples seems more adapted to industrial patronage than that of the Americans. Both workmen and employers in the United States are too independent, too mobile perhaps, or at any rate, too careful about minding their own affairs to form or accept obligations and bonds of this nature.

XXVI.

Profit-sharing is something more than industrial patronage, although of kindred origin; it is a wage-contract by which the employer obligates himself, in addition to paying the customary wages, to set aside for his employees a fixed portion of the profits. It is usually adopted with the object of stimulating the productivity of the employees by linking their interests to those of the employer. It is recommended as the most equitable form of remuneration and as the surest remedy for the antagonism between labor and capital, on the grounds that it creates in the employee a pecuniary and moral interest in the success of the business while it leaves the management and authority undivided in the hands of the employer.

²⁴ See *L'Ouvrier Américain*, part iii, ch. iv.

The system is certainly to be commended, and its effects are excellent where it is applicable, that is, in cases where the character of the personnel, the nature of the industry, and the tone of the establishment are favorable to its application. But such cases are rare, and although estimable men have pointed out the path and devoted men have followed it with faith, instances of profit-sharing are rarer in the United States than those of ordinary industrial patronage, and until now it has not been America which has furnished the most celebrated example of profit-sharing.²⁸

XXVII.

Cooperation is another proposed remedy. In the form of the *credit association* it facilitates the payment of interest upon very small savings, and is profitable both to the artisan and the workman; the most popular and best organized type of these in the United States is probably the loan and building association.

The *consumers' association* makes it possible to buy the principal articles consumed in the household in a more economical and healthful way than at retail, by which the prices of many commodities are disproportionately increased. Cooperative consumption is not practiced exclusively by workmen, and although it has been highly recommended by powerful labor organizations, the Knights of Labor for instance, it has made much less progress in the United States than in England, and occupies a very small place in the life of the American workmen.

Cooperative production occupies a still smaller place. Is it because the idea has not had time to mature, or because its foundation is faulty, or because—although of possible realization—the conditions necessary for general and lasting success are too complex, too difficult to unite? The third supposition seems most probable. In any event, cooperative production has been no more successful than

²⁸ *L'Ouvrier Américain*, part iii, ch. iv.

profit-sharing in converting the American mind, which seems too individualistic, in its present attitude at least, for such institutions.

Nothing is so alluring to the workman as the prospect of becoming master where until now he has been subordinate, and those who, knowing all this, hold cooperation out to him as the dawn of a new era in which association shall wholly replace the wage-system, are willfully deluding him.

XXVIII.

Another illusion of which certain innovators of theory, well-meaning gentlemen no doubt, are fond, is that economic progress is due to the *growth of consumption*. Mr. Gunton, for example, defends this thesis: "Social progress and civilization are promoted, not so much by saving as by consuming wealth. Those who save, especially among the wage-receivers, are enabled to do so, other things being the same, solely because others consume. If everybody saved, who would consume? and if nobody consumed, who could save?"*

If there were no consumption, production would certainly be superfluous. But this supposition is entirely gratuitous. The truth is that man consumes in order to live, and that a natural feeling—this is admitted by American as well as European economists—prompts him to consume more freely as his resources increase. The exceptions to this are rare. The economic movement of a nation is a resultant in which all classes, closely interconnected and reacting upon one another, have participated. Consumption stimulates production by absorbing it. But this is no reason why the whole income should be spent for immediate enjoyment or in what has been called, more or less exactly, unproductive consumption. The man who saves and turns his savings to immediate account by investing them, institutes a consumption which is not less but more conducive

* *Wealth and Progress*, pp. 95, 96.

to the growth of wealth than the consumption for personal enjoyment. These are truths repeatedly emphasized in political economy and generally endorsed by the common sense of the people which counsels a wise mixture of comfort and saving. It is as unscientific to erect into a principle the dogma that consumption is the efficient cause of wealth as it is imprudent to excite the people to increase their expenditures by persuading them that their incomes will follow suit.

As to whether demand determines supply or *vice versa*, I have stated that if either one can properly be said to take precedence over the other, I am inclined to attach the priority to demand, because at any given moment we have only the existing wealth with which to pay for products. And yet, it is necessary that this wealth should have been created. The laboring class, less than any other, should be encouraged to procure personal enjoyment upon credit.

XXIX.

Assuming that there is little efficacy in the partial reforms which conservative minds have proposed in the hope of improving without revolutionizing the present organization of society, is there no alternative but the radical transformation of *socialism*? Some American publicists make an antithesis of socialism and individualism, assimilating the former with egoism, the latter with sociability. Mr. Gilman, for instance, after having shown the benefits of social organization, adds less happily: "What is most needed is not a crusade against socialism in the holy and infallible name of free competition, but a determined reaction against the gross individualism too abundant in our time."⁷⁷ That morality opposes the excesses of an unrestrained individualism by the feeling of sympathy is true enough; that American employers are particularly in need of having their social sympathies awakened is very possible; that the family, the

⁷⁷ *Socialism and the American Spirit*, p. 22.

corporation, the state are existing manifestations and irrefutable proofs of human solidarity is evident. But this does not prevent sound policy and political economy from pronouncing openly against socialism which tends to substitute restraint for solidarity; which aims to suppress individual initiative, and at the very least would emasculate it; which if consistently applied would disorganize society, and if partially injected into American institutions would impoverish certain fruitful sources of wealth. Individualism turns a cold ear to communism. Cooperation? Yes; but not absorption.

It is no reproach to individualism that it stands for the power of the individual, for this is one of the moral forces that support the social structure of the United States and one of those which has contributed most to the greatness of the American nation. Individualism is bred in the American by the democratic nature of his government and by the democratic constitution of the family, in which children are granted their independence at a very early age.

Vague definitions have created a good deal of confusion upon a subject about which it is particularly necessary to think clearly, and in order that the public may think clearly it is necessary for those who instruct them to be very precise in their statement of facts and tendencies.

Under the term *solidarity*, it seems, certain minds in America and a greater number perhaps in France, have grouped a confused mass of projects which threaten to extinguish liberty beneath a flood of new social obligations. It is very necessary to clear up this confusion. Everyone understands that a voluntary solidarity envelops our whole life, showing itself in family duties and affections, in the relations of friendship, in the love of our fellows, in the desire to secure power or win respect; moreover it is plain that the compulsory solidarity, legal and social, of members of the same state is undeniable and necessary, and that it has existed at all times, changing as conditions changed, developing as political liberty developed. "*Quidquid delir-*

ant reges plectuntur Achivi" was said in ancient times, and in modern times every nation has had proof, sometimes cruel proof, of how dependent the fortune of individuals is upon the good or evil administration of their government. The political solidarity which defends territory, punishes crime, spreads education, and relieves want, is the moral keystone of government and the backbone of civilization. But to make voluntary solidarity a legal obligation, to regulate the acts of private life by public authority when such interference is not absolutely necessary to the existence of the community, to confiscate one man's property, for instance, because the government thinks good to give it to another, or to compel people to have children²² and individuals to do a certain amount of manual labor daily, this would be a criminal suppression of liberty that would probably dry up the sources of activity, wealth, and altruism, although the reformers flatter themselves that under their control these sources would become only the more productive. We must be careful not to abuse the word by confusing the kinds of solidarity.

I cordially endorse the words of Spencer: "The society exists for the benefit of its members; not its members for the benefit of the society,"²³ and I add: "Society has duties towards its members, and those members have obligations toward society." The principles of liberty and solidarity are not mutually exclusive; but to suppress liberty in the name of solidarity and with the object of improving the lot of the disinherited, would be to kill the goose that lays the golden egg.

We must also be careful not to abuse the word *socialism*. When people say we are all socialists because we all live in society and all believe that society has certain rights and obligations towards its members, they are playing upon words. Nor can I approve the verbal coquetry by which on both continents state interference is softened into "good

²² This singular project is unknown in American socialism.

²³ Spencer, *Principles of Sociology*, pt. ii, § 222.

socialism"; I refer the "good socialists" to what I have just said about solidarity. Those who use the term may sincerely believe it justifiable, or they may use it because it appeals to the ear of the crowd who like the word socialism; but when one gets to the bottom of their doctrine it becomes apparent that they are simply lending themselves to the socialists without openly professing the true socialistic doctrine. Socialism, as understood by its sincere adherents, in both Europe and America, is not the same as the science of social organization. Nor is it correctly characterized in Schaeffle's definition of its policy, quoted by Mr. Gilman: "The alpha and omega of socialism is the transformation of private and competing capitals into a united, collective capital."³⁰

Socialism comprehends diverse and even antagonistic theories, but they have this in common: they all look forward to the seizure of private property, or at least, the seizure of the means of production, by the community. This does not imply that there was not a wide difference between the early schools, those of Fourier and the Saint-Simonians, any more than it implies a close resemblance between modern communism and anarchism, although they both accept as a starting point Marx's erroneous analysis of the conditions of production, because it is an assault upon the right of capital. At present one seldom hears of these early schools except in the histories, and the more or less communistic experiments made in America are little more than rare examples of social teratology, without influence upon opinion. The popular schools are either communistic, anarchistic, or collectivist. Their dominant characteristics, so far as it is possible to seize upon salient features in this tangled maze of vague projects, are the abolition and confiscation of private property, or practically this, in order to give laborers free use of the instruments of production; the suppression of the wage-earning and

³⁰ *Socialism and the American Spirit*, p. 10.

employing classes in order to organize production on the cooperative system; the remuneration of each according to his need, his productivity, or the number of hours he has worked; and the assumption that such a régime will eradicate indolence and vice and make everybody comfortable.

Their most alluring scheme is the suppression of the wage-system. When the International Labor Union of America was founded in 1877, it adopted the following as the first article of its declaration of principles: "That the wage-system is a despotism under which the wage-worker is forced to sell his labor at such price and such conditions as the employer of labor shall dictate."¹¹

All the socialistic schools agree in declaring that the present organization of society is a crumbling aggregation of iniquitous monstrosities which crushes labor while it exalts capital, and that to attain their ends it must be destroyed. The more conservative predict that it will fall to pieces of its own accord as social evolution proceeds, and recommend that its dissolution be hastened by means of the strike and other active measures. The revolutionists maintain that capital will never capitulate, and loudly proclaim that force must be used and the robbers dispossessed, if the people would come into their own again. Doctrine and tactics are the same in both continents. In former days reform was demanded in the name of liberty and right; to-day it is social transformation they demand, violent or peaceful, and in the name of pleasure. Hatred of existing conditions; this is the lesson taught by socialists in one way or another, and as they are too impatient to await transformation by natural evolution, they usually turn to the propaganda of revolution. With the masses into which a propaganda of this kind filters, it is ordinarily the most violent who secure the last word.

Three factors of American civilization are especially favorable to the spread of socialism: immigration, indus-

¹¹ McNeill, *The Labor Movement*, p. 161.

trial concentration, and the immense urban populations. Yet in spite of the unhealthy influence which these exert, and the scurrilous character of certain classes of the immigrants, the strong individuality and democratic training of the American workman have bred in him, happily for the United States, an inherent antagonism to the sophistries of communistic production. Mr. Gilman thinks²² that the idea of the state being the sole producer, transporter, and distributor of wealth is distasteful to the American workman whose optimistic nature recoils at the pessimism of socialism. "The world over, democracy has no more insidious enemy to fear, so surely would socialism issue in despotism."²³ Socialism and revolutionary socialism in particular seem to have taken little hold on the American people; its followers are more noisy than numerous and still remain an insignificant minority.²⁴

Society's supreme safeguard against the application of collectivism or communism is their impracticability. Yet it will not do to look upon their propagation with indifference. Whatever his virtues, the American workman probably has a kindly ear for the quacks who tell him that he is badly treated, that the only obstacle is the capitalist, that he clearly has a right to more than he gets, and that he will get more if he keeps hoping for it persistently; all these are ideas which soothe his feelings. In a country where the people govern, when they are fed upon the hatred of wealth and obedience, when agitation in the present and

²² In his opinion, the people who have passed through the Civil War and suppressed slavery can regard with serenity the social difficulties of the future. The Americans, he also thinks, are justified in believing that if the socialistic problems which are now disturbing Europe arise in the United States, they will find their solution in that country. "Our existing civilization in its finest development has not asserted the principle of equal *reward*, but the principle of equal *opportunity* for every man and woman." *Socialism and the American Spirit*, pp. 329, 361.

²³ *Ibid.*, p. 189.

²⁴ Mr. Gilman says: "Revolutionary socialism has very little significance in the America of to-day." *Ibid.*, p. 127.

forceful revolution or the seizure of power in the near future, are held out to them as the infallible means of securing their happiness and advancement, there is surely a public danger. If collectivism cannot be instituted, the present organization of society may be deranged.

And yet in a free country, so long as agitation keeps itself within the bounds of law there is but one weapon with which to oppose the propagation of false ideas, and that is the propagation of correct ideas. But we must not be deceived by the hope that the true will wholly exterminate the false. The people are credulous: they can no more be disabused of socialism than the ignorant peasants at our country fairs can be shorn of their belief in the miracles of the side-show.

XXX.

The *great fortunes* made in business, by speculation, or by the growth in the value of real estate are logical results of the peopling of an immense territory, and of the gigantic development, agricultural, commercial, and industrial, of the United States in the nineteenth century: they constitute another motive for stirring up hatred against wealth. The revolutionists, and the peace-socialists also, have not failed to use them as commentaries upon the proposition laid down by Karl Marx that an accumulation of wealth at one extreme of society indicates an accumulation of misery and an excess of labor at the other, and to persuade the poor that, as the distribution of wealth is inequitable, the people would merely be reclaiming their own in confiscating for the benefit of the community the wealth which they have created. The separation between employers and employees, which has been increased by the growth of the average industrial establishment, tends to develop this hostile sentiment.

"If," says Mr. Gilman, "the contrast between wealth and poverty is greater now than ever before—and this may well be doubted—it is not because the poor are poorer, but be-

cause the rich are richer.”⁸⁵ In another passage which merits the studious attention of the great manufacturers, he adds: “The former feeling of partnership has vanished in the stupendous development of modern industrial civilization. Master and man too often talk of each other as if they were entirely distinct species, with the fewest possible points of sympathy or contact. . . . The employer is too wont to think of his men as so many machines, or, at the best, as creatures largely irrational. The workman regards the owner of the vast establishment where he works as a selfish tyrant, chiefly bent on reducing wages to the lowest possible point. The masters combine against the men, and the men combine against the masters. . . . Workingmen dream of a happy day when all industry shall be purely co-operative, and the employing class be abolished. The capitalist dreams of the time when improved machinery shall have reduced the need of hand-labor to a minimum.”⁸⁶

XXXI.

All socialistic parties demand *state intervention* in the regulation and even in the operation of industry; their tactics are those of an army making a diversion in one direction while the ultimate goal—the absorption of all industries in the state—is carefully concealed. By this stratagem they obtain the support of parties whose ideals are different and which would refuse to take the field, perhaps, if they understood where they were being led.

The question of state intervention, unlike the proposal to abolish private property, cannot be judged and condemned *en bloc*. As I said in speaking of solidarity, the state is an indispensable condition of social life and one of the two causes of the progress of civilization, the individual being the other cause. There has been much discussion about the spheres of the individual and the state, but to deny either is logically impossible. The individual acts, thinks,

⁸⁵ *Socialism and the American Spirit*, p. 25.

⁸⁶ *Ibid.*, p. 283.

creates wealth and consumes it; the state prescribes and enforces rules by which the activities of individuals are coordinated in that degree necessary to maintain the society: in certain cases, also, the state limits and directs these activities to a common end. The supreme end, so far as it can be defined in the present state of our civilization, is to ensure justice through the operation of law, and to secure, not happiness—the word is as vague as the end is indeterminate—but better moral and material conditions of life for the members of the society. The first and most important of these conditions, after men have attained a sufficient moral and intellectual development, is the respect for human liberty and the consequences thereof, which, by stimulating self-interest, encourages the unlimited and fruitful expansion of individual activity in all directions of thought and action. At bottom there is no conflict of interests between the individual and the state, since they have a common end, but disagreeable conflicts have arisen because the government has frequently been in the hands of despots—kings or the transient instruments of some faction—and in other cases, outworn institutions of another age have more or less oppressed the people, who as they gained in intelligence and power, have broken their chains.

The varied functions of the state do not necessarily make it an oppressor. To provide an efficient police which will protect the national territory from foes without, and within, furnish security to the inhabitants in their persons, their acts, their relations, their associations and their property, may be the first duty of the state to a free people; but it is not the only duty. In its political laws the state is led to determine the participation of individuals in public affairs; in its civil laws, to decide questions of property and limit individual action; in its fiscal laws, to levy upon individual wealth. The state educates; constructs roads, harbors, monuments; operates certain industries in order to supply its own wants or undertakes to furnish certain services which are used by all; it guards the common interests. The

government thus impresses a national character upon the nation which it governs.

From this point of view every state has its peculiar institutions. In England and America, railroads are private industries; in France they are organized into great systems by temporary concessions from the state; in Australia and Germany they are to a great extent owned and operated directly by the state; in the United States the telegraph service is private, while the postal service is public. Considerations of expediency have determined the intervention or non-intervention of the state in each instance. In England, the home of individual liberty, the state has greatly extended the sphere of intervention, wisely or unwisely, in the last twenty years, and American advocates of intervention have not failed to call attention to the fact. Nevertheless, the economic institutions of all civilized countries of Europe and America are founded upon the principles of individual liberty and private property.

By this I do not wish to imply that the form and limits of state intervention are questions of mediocre importance; far from it. If communism is a utopia, which may agitate the people, but never be realized, state intervention is a present reality, and projects of intervention such as will debase the conditions of social existence and interrupt the growth of wealth, constitute an immediate danger; a passing current of public opinion may at any time secure the passage of a law that will transform some wild scheme into a public institution. Although the American character may be unfavorable to communism, there is no doubt that democracies, American and European, are favorable to projects of state intervention. It is very possible that they take this position blindly, thinking that if intervention takes the form of state ownership, it will be so much saved from the greed of capital, while if it takes the form of surveillance, it will be the means of checking the tyranny of capital.

XXXII.

Modes of this surveillance are found in *factory regulation and inspection*. In judging these the employer and the workmen are placed at diametrically opposed points of view; it is necessary to hear both sides, remembering distinctly at the outset that the proprietor is the owner, and must remain the master, of his establishment, but recognizing on the other hand that as this establishment employs a numerous personnel who cannot exercise the police power themselves, there exists a necessity for certain rules of hygiene, protection, and responsibility in cases of accident, as well as for the inspection necessary to the enforcement of these rules. But there are limits which cannot be passed without crippling enterprise, and it is necessary to respect these limits; as John Stuart Mill somewhere said, the presumption is always in favor of liberty and it must be shown in every particular case that regulation is necessary. Under democratic influences, legislatures have more than once ignored this maxim and transgressed these limits. A few years ago Mr. Hewitt, the well-known manufacturer of New York, said: "Some of the legislation which has been recently enacted is a positive violation of the . . . Constitution in reference to the liberties of the citizens. . . . What we need, therefore, is a recurrence to the well-settled principles of jurisprudence, a higher order of statesmanship, and the courage on the part of our public men to stand up for the right, though for a time it may involve the sacrifice of personal popularity."³⁷

³⁷ A. S. Hewitt, *Iron and Labor*, p. 18. The Australian colonies, particularly New Zealand, are more democratic in character than the United States, and have consequently gone further in the regulation of industry. The regulations apply to all establishments in which more than two wage-earners are employed. The employment of children under fourteen is entirely prohibited, and women, minors under eighteen, and the employees of retail stores must be given a half-holiday each week in addition to the Sunday holiday. In 1895 it was proposed to make the eight-hour day obligatory in all lines of industry. Pierre Leroy-Beaulieu, *Les Nouvelles Sociétés Anglo-Saxonnes*, pp. 174, 180.

XXXIII.

Among the most important subjects of regulation is the *labor of women and children*. Massachusetts limited by law the length of their working-day, and other states have followed her. Massachusetts had imitated England in this matter, and the question is still agitated on both continents. Those who in common with myself are convinced that freedom should be the rule, being a right, and regulation the exception, think it necessary to draw a distinction between adult women and minors: the former are legally capable of making a contract and hence should be free to earn their living in whatever way seems most advantageous to them; for the latter the state may legitimately act as guardian and protector, on the ground that the premature employment of children is injurious to their own future and that of the state.

Instead of restricting the opportunities for self-support in occupations which are now open to them, it would be better to seek new avenues of employment for women. The Americans occupy themselves with this question, realizing that, although it is desirable that married women should not go out to work when their husband's wages are high, it is also desirable that they should be able to contribute something to the household expenses when wages are low, and in the case of single women, that they should be able to support themselves.^{7a}

^{7a} [Franklin H. Giddings has recently pointed out (*Democracy & Empire*) that to enlarge the field of employment for women postpones the age of marriage in cities; that this is a desirable result inasmuch as it is infusion of healthy country blood and not increase of numbers on the part of the lowest class of city populations which makes for increased physical and moral vigor in the cities, and inasmuch as it affords women more opportunity to educate themselves before they assume the duties of a mother.

A further, most important, result is that with maturer years the woman becomes more discriminative and the powerful factor of natural selection more active.—EDITOR.]

XXXIV.

The hours of labor of men have also been the subject of regulation. The socialists and the labor-party, who in the case of women and children were very urgent in their demands for shorter hours, are no less insistent in their present demand for the limitation of the hours of labor of men. The eight-hour system, taken in its literal meaning or as a vague demand for fewer hours, has in the last fifteen years become one of the war cries of the labor party, a cause of many strikes, and the subject of manifestos from the socialists and the labor-organizations. The federated building trades have forced contractors to accept it, a federal law and many state laws have directly or indirectly adopted it for workmen employed in the public service, and some states have formally recommended or even imposed it as a rule in wage-contracts between private individuals.

The workmen of course do not desire a reduction of hours that is accompanied by a reduction of wages: the movement really amounts to a demand for higher wages per hour. They even insinuate, it seems, that in Massachusetts wages were increased by a reduction of the working-day,⁸⁸ but the insinuation is misleading.

It is not the part of political economy to settle this difference by adopting a normal day. Economics teaches merely that there is a logical connection between the duration and the product of labor, and shows historically that as industry has developed, the working day has been reduced; it concludes, reasoning from the principle of liberty, that the public authority should refrain from all interference in this matter and leave the task of establishing temporary agreements to the play of private interests in each occupation, place and time.

The unions have been, and may continue to be, of assistance to workmen in bettering themselves in this as in other

⁸⁸ Or at least a French Deputy, M. Vaillant, said as much in a speech delivered in the Chamber on June 27, 1896.

conditions of labor, and the success of one helps others by creating a precedent which in the end becomes a custom.

XXXV.

Unsanitary dwellings have also been the subject of regulation in some of the large cities, and here, regulation seems to me legitimate. Of course, people may lodge themselves as they see fit, so long as they do not obstruct the public ways. But a city has the right to condemn property generally recognized as dangerous to the public health, and even to stipulate what kind of buildings shall be erected within its bounds. It also has the right of enforcing general sanitary precautions against the spread of contagious diseases. The housing of the poor has an indisputable influence upon their morality, their health, and their general welfare. But the authorities should be very circumspect in the adoption and execution of these measures; the destruction of a filthy tenement may mean that some family will have to sleep in the streets, and a mischievous building regulation may raise rents among the poorer classes; and these are high enough already in the United States.

XXXVI.

State operation is an entirely different thing from state regulation of industries. The socialists favor state operation, for reasons given above, and they would like to push their theory to its logical conclusion, until industry, agriculture, and commerce were combined in one huge unit—the state. The adherents of intervention, the *Étatistes* and the *socialists of the chair* as they have been called, also favor state operation, but they would confine it within certain undefined limits which vary according to their individual temperaments. The more conservative economists are unfavorable to the policy, some condemning it unreservedly, others justifying it only when it is demonstrated to be advantageous in practice. In France, for instance, it is cer-

tain that the tobacco monopoly is far more productive than any form of excise upon this article would be, though tobacco is wholly a luxury, the commerce and home production of which has been very easy to regulate, while it still remains to be proved that the monopoly is not injurious to agriculture and commerce. On the other hand, it is certain that the monopoly of matches has its inconveniences; it increases the price of a necessary commodity and restricts the variety which competition would introduce in the effort to please the purchaser." It is also evident that the alcohol monopoly, which bears upon an article of luxury and often of vice, would lead France into inextricable difficulties because of the immense number of producers and vendors which would have to be maintained under the law.

There are industrial undertakings which the state is almost obliged to carry on. In the United States, for instance, the federal government surveys public lands, maintains light-houses, prints the official publications, and makes or repairs war materials; the cities construct highways, keep them clean—sometimes by contract—and regulate the water supply. As the interventionists demand; the cities might also supply gas and electricity without danger to society, if it was proved—which it is not—that they could do it better and more economically than private companies.

XXXVII.

Reformers accuse political economy of being negative or sterile because it demonstrates the danger or futility of most of the remedies which they propose as sovereign. When a clergyman like Washington Gladden answers the argument which he puts in the mouth of a capitalist—"Business is business; Supply and demand"—by saying: "Another

³⁹ Large budgets tempt the state to try monopoly. Bismarck took under consideration the advisability of a tobacco monopoly, and I recall that a person in relations with Napoleon III asked me if I could not make some suggestions for the establishment of a monopoly of matches, but I carefully refrained from doing so.

law comes in here, a better law; the law of love,"⁴⁰ I understand it. I also understand how Professor Ely, in the name of his faith, can say that law is powerless to untie the gordian knot, and appeal to sentiment:⁴¹ he is right, sentiment is one of the bonds of society. But I scarcely understand how as an economist he can present *laissez-faire* as a doctrine of selfish individualism which recognizes neither rights nor social duties, or speak of a political economy higher and more advanced, which proclaims the falsity of *laissez-faire* and affirms that within certain limits we are obliged to interest ourselves in the happiness of others. Professor Ely seems to me to have confused *laissez-faire* with political economy. The former is a logical conclusion from the doctrine of economic freedom, and signifies that the individual is the best judge of his own interests and that the surest means of developing the wealth of a state is to give free play to the development of individuals. But this maxim is far from constituting the whole of political economy which not only does not deny the existence of mutual obligations, but has for its principal subject the relations between men in the production and distribution of wealth: many economists even define political economy as "the science of exchange" and expound the advantages of the association of capital and labor.

Political economy is one science, and ethics is another; nothing is gained by confusing them. Without the recognition of social obligation and the feelings of sympathy and love, there would undoubtedly be no human society and man would descend to a level lower than that of certain animals. On the other hand, the moral and intellectual work of society would be sadly crippled without industrial freedom, the development of education, the respect for private property, and the stimulus of self-interest. It is a mistake to say that political economy is heartless, as reformers are

⁴⁰ *Working People and their Employers*, p. 38.

⁴¹ *The Labor Movement*, p. 311.

fond of saying both in America and Europe, because it confines itself to the study of economic facts and the discovery of economic laws, without occupying itself with the construction of beautiful utopias. Its subject-matter being wealth, and wealth (I do not say value) being almost wholly the product of labor—the intellectual labor of the entrepreneur, the manual labor of the day-laborer, the labor represented in the capital—nothing which concerns labor or laborers is foreign to it: wages, machinery, strikes, crises, everything that touches the laborer must be studied and made to yield useful lessons. As a science it explains the laws of labor and investigates the ultimate causes of the economic movement: as an art, it seeks to explain the conditions most favorable to the productivity of labor and the welfare of the laborer. The science is not ethical, but it is not indifferent to ethics: economists understand how vitally the general productivity of a nation is affected by the morals of its laborers.

Who is the wisest friend of the laboring classes: the prophet inspired of socialism who seeks to destroy the wage-system and with his cry of "down with capital" has already succeeded in dampening the spirit of enterprise by which wage-earners live; or the economist convinced by his studies that capital vitalizes production and benefits the wage-earner, and who endorses the wage-system as a legitimate and durable institution, at the same time that he seeks the means of improving its conditions: the enthusiastic apostle who rhapsodizes about the virtues of cooperation and tries to enlist workmen in schemes wherein they risk or lose their time and money; or the scientist who after a careful analysis points out both the advantages and difficulties of this species of enterprise, and seeks to find a practical solution of the problem by studying the progress of theories and institutions of solidarity in contemporary societies?

Economic science is neither perfect nor complete, and it cannot hope to lay down inflexible rules of action for every

case that may arise. Nor will it ever be complete. Like all political sciences it is in a continual state of development, because certain conditions of social life undergo incessant modification. Like all sciences of observation, it pushes its analysis into the minutest details, and at the same time rises above them in order to grasp general relations; in these analyses and generalizations, its vision is not altogether perfect. Like all moral sciences it has given birth to diverse schools and it will continue to do so because its subject-matter is very extensive, very complex, and up to a certain point variable, so that it may be surveyed from many viewpoints which, moreover, change with the lapse of time: it is not difficult to find in history the *raison d'être* of the principal economic schools. The American nation is young and not afraid of economic novelties, as is shown by the economic teaching of some of its universities. The liberal school to which I belong is experimental, historical, and in consequence, progressive.

By its studies economic science not only extends its own borders but throws light upon many aspects of social life. It counsels progress and, in consequence, antagonizes that attempt to promote it which consists in undermining liberty and private property—the essential conditions of progress and the dual base of the existing social organization, built up by the work of centuries. If it had done nothing more than demonstrate the solidity of this base⁴ and the impotence of its proposed substitutes, it would have earned the right of respect; society should be grateful to it for exposing the vanity of the highly colored schemes which are so attractive to the multitude. Does not hydrography render

⁴ Cf. *A Plain Man's Talk on the Labor Question*, p. 189. Professor Newcomb expresses an important truth when he says: "It seems to me that the system on which men have gradually been led to work in unison by merely following the course dictated by circumstances in each individual case works better than any which human ingenuity could combine." This is, however, no reason why we should not seek for a better system.

an immense service to navigation and commerce simply by its measurements of depths and by marking out rocks and shoals upon the marine charts?

XXXVIII.

The laws of wages constitute one of the subjects which political economy investigates, and although the phenomena to be explained are always at hand in innumerable quantity, the problem is so difficult and complex that its elucidation has been very gradual; as yet political economy has offered no explanation that meets with general acceptance.

I have no patience with those critics who abuse the tentative efforts of the early economists by deducing from some respectable but superseded doctrine a narrow and incomplete definition of wages which they present as an economic axiom, and then glory in the alleged impotence of the science because they are so easily able to demolish their man of straw. That Karl Marx used this process and bolstered up his thesis with the authority of Ricardo and Adam Smith, goes without saying. But the conscientious critic will have none of it: he knows that every science has its history and that its real condition must be judged by the present, not the past.

I have attempted, while making every use of the work of my predecessors, to demonstrate that no single cause can be assigned as the regulator of wages, and have enumerated some of the determinative causes of nominal wages, which though united in the general law of supply and demand, are very diverse: custom and institutions, productivity, competition, cost and standard of living, industrial capital—including in that the wage-fund—activity of production, and amount of consumption.

In the future, wages, like prices, will have to be modified, diversified, and adapted to time and circumstances; it will be the part of profit-sharing, labor-premiums or of various forms of piece-rate payment to ameliorate the hardships of the wage-system. But the wage-contract implies that this

system like the contract of sale will not disappear, and reformers go very far astray when they solve the whole labor problem by concocting some utopia in which this feature is lacking. A knowledge of the determinative causes of wages, facilitates a clearer understanding of how, when, and in what measure the wage-system can be modified and improved.

PART II.—THE FUTURE: TWENTY OR THIRTY YEARS HENCE.

History opens vistas into the future of nations, but withholds the right of prediction. The same is true of economics. Economic science has the right of saying, in certain cases, how things may happen and how they ought not to happen, and economic history has free scope in describing how they have happened: this is what I have tried to do in this work. But neither can foresee with certainty the complicated play of interests, the combinations of phenomena and the economic results that will be produced in the distant future. The statistician, when he has at his command a sufficient number of numerical returns descriptive of simple facts, is occasionally justified in attempting to project into the future a curve that he has plotted for the past, but even then the result is merely probable, although examples are not wanting in which time has confirmed the forecast.

The elements of labor problems are too diverse and variable, and the corresponding statistics are too meagre, too lacking in serial continuity, to justify the construction of such a curve. Nevertheless, it is possible to indicate vaguely, from the experience of the present generation, the direction that the so-called labor-movement will take in the coming generation. I have already indicated some of these tendencies in the preceding part of this chapter.

The reader may be somewhat surprised that in my sketch of the future I have not used brighter colors or a

newer design; he may reproach me with not having the acumen to see and the boldness to show that social evolution is leading humanity from the era of selfishness to that of altruism, from antagonism to solidarity, from the wage-system to cooperation, from capitalism to collectivism, from misery to happiness. If such boldness fails me it is because my examination of past experience has given me no faith in this ideal evolution, at least not the absolute faith of the illuminati. I believe as a philosopher, and see as an historian, that civilization, to use the phrase of a well-known school, is in a state of perpetual becoming. But I observe that the economic world, while it progresses, rests upon a foundation of principles which though modified in their detailed application are in essence invariable, and that individual initiative, private property, the wage-system, capital and association are integral parts of this foundation. The progress of the nineteenth century is due to the solidity of this foundation, no less than to the discoveries of science, and notwithstanding the slanderous attacks of visionaries and occasionally of legislators, progress has but strengthened it. Although Fourier predicted in 1803 that the world was about to pass from civilization to a superior phase of its development, we are still in the civilized state and much may yet be done to perfect this civilization. I cannot imagine that it will be greatly different in the early decades of the coming century and I see no reason to believe that the predictions of present-day socialists will come any nearer fulfillment than those of their master, Fourier.

Yet all this does not debar one from affirming that numerous and probably very important changes will take place in the state of wealth, as in the distribution of wealth and the character of production, in the economic relations of men, as in the customs of civilized nations.

I.

The force which has carried forward *American industry* so rapidly and carried it so high is far from being exhausted.

Agriculture meets more resistance than it did twenty or thirty years ago, and is forced to become more intensive in order to be more profitable; but industry always has ample scope to expand. It will probably encounter increasing difficulties, as the larger industries do to-day, but the American genius will conquer them.

The Americans will continue to found many great industrial establishments, to enlarge those which exist, and in enlarging them, to resort more and more to association. As the expansion of the industrial unit necessitates larger capitals, greater use will be made of the joint-stock company, with its triple advantage of limiting individual risk, opening industrial investments to small savings, and facilitating the accumulation of great capitals.

At the same time American industry will continue to improve its equipment by taking advantage of the new discoveries of science, by increasing the employment of machinery, and by introducing thus an increasingly intense industrial concentration. Machinery, concentration, combination of capital: these indicate the line of development of American industry in the first quarter of the twentieth century.

So far as industrial development depends upon the employment of human forces of production, the United States enjoy one great advantage over Europe: they have practically no standing army and whatever sacrifice the navy entails, war expenditures weigh much less heavily upon them than upon the great powers of Europe.

II.

Although they possess within their own boundaries what is possibly the most important market in the world, they will take a larger part than heretofore, and with good prospects of success, in the struggle for foreign markets, in order to extend their field of production with the multiplication of their outlets; they will aspire to become a *great exporting nation*, without relinquishing however the profitable duties upon imports.

There are manufacturers in Europe who deny the possibility of a large expansion of the American export trade, on the grounds that the high wages prevalent in America constitute an insurmountable obstacle and that American workmanship, mechanical and uniform, is too defective. The high import duties have led them to believe that American industry is radically inferior, but they are harboring an illusion which time will dissipate. We have seen that by the use of improved machinery the Americans have succeeded in producing some articles very cheaply; there is no reason to prevent the application of this system to the production of other commodities. They have also improved the quality of some products, and there is nothing to prevent further progress of this kind; moreover, in many markets, the trade is more concerned about the price than about the finish of the goods. With regard to customs duties, there is no difference between the American and the European manufacturers; when a tariff is being framed they affirm their absolute inability to meet competition without protection, and when they are charged with injuring the interests of their fellow citizens, they boast about the cheapness and quality of their products.

III.

Some Americans are apprehensive about the influence which the *depression of prices* of agricultural products may exercise upon the foreign commerce and financial equilibrium of their country. To equip their industries they have drawn from Europe, and particularly from England, an enormous amount of capital upon which they must pay interest. In the coming century they will probably continue to draw on Europe, whose investors will be attracted by a difference in the rates of interest, and in consequence the foreign indebtedness will not soon disappear. Their interest-indebtedness is settled by the excess of exports over imports, and low prices consequently render their burden heavier: assuming that prices have fallen fifty per cent—it

has not been that much, but it might be—it would be necessary to export two units in place of one, in order to settle the account.

The depression of agricultural produce undoubtedly reduces the purchasing power of American farmers who have little to sell but cereals, and the general economic condition of the nation is affected thereby. Farm laborers, on the other hand, whose wages have not decreased and probably will not decrease—in any event not so much as the prices of farm products—will retain their present purchasing power. Moreover, the farmers will probably overcome a part of their difficulties in the next century, by modifying their system of cultivation. Manufactures and manufacturers are not at present afflicted with a depression of this nature and it is possible that they will entirely escape it, although the chances are that the prices of most manufactured products will fall rather than rise. As for the balance of trade, the customs statistics show that the exports exceeded the imports in seventeen out of the last twenty years.⁴⁸ America will have to make a greater effort in the future to pay her creditors, but she has done it in the past

⁴⁸ From 1846 to 1873, with the exception of three years, the imports exceeded the exports; from 1874 to 1899 inclusive, with the exception of the four years 1875, 1888, 1889 and 1893, there was an excess of exports. The maximum excess of exports, \$615,432,676, occurred in 1898; previous to 1897 the largest excess was that of 1879, \$264,661,666, in which year there was an enormous exportation of wheat; the excess in 1899 was \$529,874,813. The value of the wheat exports has diminished, and those of cotton and domestic animals have fluctuated, without justifying the statement that they have regularly diminished; in general, the value of the agricultural exports has varied rather than decreased since 1880, and is greater than it was between 1870 and 1875, a period that was, however, marked by a crisis. The exports of domestic manufactures have increased, both relatively and absolutely; in 1870 manufactured products constituted 15 per cent of the total exports; agricultural products 79 per cent; and the mines, forests, fisheries, etc., contributed the rest. In 1899, manufactured products formed 28.13 per cent, and agricultural products 65.20 per cent, of the total exports.

and she will discover a way of doing it in the twentieth century.

IV.

As a result of the development of industry, gigantic fortunes will still be amassed, and *wealth* will continue to increase rapidly, although less rapidly perhaps than in the second half of the nineteenth century which has been so prolific of industrial improvements.

American industry has been stimulated by the importance of the American consumption. This will certainly not diminish in the next century because in thirty years the United States will probably have a hundred million inhabitants. The *average consumption per capita* is at present greater than in continental Europe, and there is no reason to believe that the standard of life or its derivative, the total consumption, of the American people will fall. But the increase of density will modify the conditions of living of the workman's family.

V.

As further consequences, the *urban populations* will assume greater proportions, and the influx of European *immigrants* will continue, although somewhat reduced by a diminution of the European birth-rate and probably by a decrease in the difference between European and American wages. However, Europe will continue to supply labor for a long time yet, and the attraction exerted by the superiority of American wages, even if this grows less, will not fail.

VI.

That the socialists should persist in describing the contemporary concentration of industry as the first step in the suppression of the wage-system, is somewhat astonishing. This is exactly what it is not. As concentration proceeds and industry develops, the employers decrease and the employees increase, in number. The character of the employ-

er is changed, also, because in most cases the enterprise takes the form of a stock-company and is managed by a board of directors instead of a proprietor; but the directors exercise the authority of an employer over the employees. As I have said, this movement is gathering momentum; it follows that the *wage-earning class* will expand. It may happen, however, that the participation of workmen in the management through the purchase of stock, as is frequently seen in the Australian colonies to-day, will be more common. Such a change would entail important consequences and in all probability would exercise a conciliatory influence.

VII.

The *negro problem* is one that cannot be settled by law or in a day. A larger proportion of the negroes will probably be found in the workshops and factories, despite the opposition of the whites. In any event, manufacturing establishments having been started and developed at various points in the South, the negroes will become, like the immigrants, one of the competing factors in the supply of labor, especially if education succeeds in making them more ambitious and if their white brethren cease to regard them as a dead weight that retards the progress of American civilization.

VIII.

Immigration is another irritating problem that will continue to be troublesome in the early part of the approaching century. No doubt restrictive measures will be taken—and will fail to do their work effectively—but I do not believe that immigration will be completely prohibited while the United States is in its period of expansion. Diverse racial elements with their differing aptitudes and ideas will continue to be infused into the body social, altering and diversifying it. But the social constitution of America is robust enough to absorb these elements little by little: by education and the action of environment and contact she will as-

simulate them enough to maintain the American type, although modified by time and the fusion of blood.

IX.

The *level of wages* being intimately connected with the wealth and industrial productivity of a country, I am confident that it will remain high in America. Will it rise higher, or will it have a tendency to fall? This is a delicate question that can only be answered conditionally.

If the demand for labor in agriculture and manufactures does not keep pace with immigration, wages may fall, and in a stretch of thirty years, there seems to me about as much chance for a decline, caused by the abundance of labor, as for an advance resulting from a productivity and distribution more favorable to the wage-earner.

X.

The American workman whose parents have lived in America for several generations, is of a *superior type*. Reasons for this superiority are found in the high wages which have given him more refined habits of life than those of the average workman of continental Europe, in the schools which mould him in the same type as the bourgeois, and in the democratic character of the institutions and customs of the nation. This type of workman will persist, as the general American type will persist, however great the intermingling of the different and inferior types that make their way into American industry.

XI.

At the same time that the development and concentration of industry will have increased the number and proportion of wage-earners, the democratic constitution of the country and the public schools—which will doubtless also develop—will have strengthened the political influence and capacity of the laboring classes, both in municipal and federal *politics*. Legislation and the budget will feel the effects,

and there is every reason to believe that the system of state intervention will gain ground, constituting probably a certain check to private industry.

The labor unions will have increased in number and improved in organization, and they will continue the fight for more advantageous conditions: limitation of the working-day, higher wages, etc. They will furnish workmen the means by which combination will be made more effective in the regulation of the supply and demand of labor than it is to-day, and they will constitute a power which will have to be treated seriously, and which, thanks to the improvement of custom and law, will probably work with greater regularity. But in any event, the power of the union will not be equal, nor equally efficacious, in all classes of labor; as at present, the trades in which wages are high will have an advantage over those in which wages are low, and in industries in which concentration is most pronounced, the unions will meet much stronger resistance.

If wages do begin to fall, the unions will oppose an energetic resistance and strikes will be frequent. Arbitration will be powerless to quiet the agitation, and in the end the laboring classes will have to accept a reduction of nominal wages. But in this event distribution among the three factors would be modified. Before the resistance of which we have spoken could take place, entrepreneurs would be obliged to accept a reduction of profits much greater than the subsequent reduction of wages.

The unions will probably have obtained legal recognition in every state, and it is to be hoped that recognition will then imply a serious responsibility. If without detracting from the services which the unions render their members, the courts succeed in preventing them from oppressing non-union workmen, and if education gives them a better understanding of the relations between labor and industrial enterprise, the laboring classes will enjoy at once the benefits of association and those of liberty. If these conditions are not fulfilled, the unions will constitute a permanent

menace to industry, and will necessarily discourage enterprise.

Just here is one of the dangers of the future. The labor union is a durable form of association and praiseworthy in principle, but it menaces the freedom of the entrepreneur by assuming to interfere in the management of his business, and threatens the liberty of the workman by attempting to force him to submit to its laws and its leaders, both of which may be tyrannical. Let us hope that liberty itself will correct the abuses of the monopolistic tendency which issues from liberty. But success is entirely dependent upon the firm maintenance by the state of the rights of liberty.

XII.

Associations of employers have existed for many years. The employers will be led to combine more freely in the future, opposing association with association in order not to be dominated by the unions in the purchase of labor, and restricting competition in order to control prices in the sale of their products. The combination of producers, whether known as trust, ring, pool, union or syndicate will undergo a great development in the approaching century, great enough perhaps to frighten legislatures into threatening the freedom of commerce. And yet, so long as law and custom preserve the liberty of labor, we may expect this principle, like the lance of Achilles, which possessed the power of healing the wounds it made, to raise up competition when profits become manifestly extortionate. The energetic and inventive spirit of the American people is a guarantee of resistance to monopoly.

Association of all kinds—association of consumers with the object of buying more advantageously, association of employers with the object of controlling the market, association of workmen with the object of dictating conditions to employers—will all increase in the coming century.

May we then expect an equilibrium between the forces of labor and capital, bringing with it social peace? Such a

consummation is to be desired, but not predicted. But we may rest assured that employees will treat with their employers on terms more nearly equal, and it is not impossible that this equality will induce the contesting parties to try conciliation, or if not, arbitration, more frequently than at present.

A wider use of *arbitration* is most desirable, and thanks to experience, it will probably be better understood—at least we must hope so—and be rendered more practicable than it is to-day. Ex-Mayor Hewitt believes that the resort to arbitration will become an established habit and that joint ownership will be common, uniting the interests of capital and labor."

XIII.

Doubtless, Mr. Hewitt has chiefly in mind some form of *profit-sharing*, labor-premium, ownership of stock by workmen, or cooperation in production.

The labor-premium has been in use for a very long time, is easily applied, and will probably come into wider use. The ownership of stock is of possible realization where wages are sufficiently high and the workmen economical. Profit-sharing is a form of legitimate remuneration which interests the personnel in the success of the business without emasculating the power of the management, and it will probably win a more important place than its present employment in America would lead one to expect. The American workman is intelligent enough to comprehend the system, but he dislikes a binding agreement with his employer, and I cannot believe that this place will be as important as the theory would justify us in believing if its application was as easy as its aim is generous.

As for cooperative production, its success is problematical. Consumers' leagues, credit associations and farmers'

" "I am satisfied that we shall not be long in adopting a similar system of settling disputes by voluntary action. . . ." *Iron and Labor*, p. 17. See also p. 23.

alliances for the sale of their products, will probably be formed, and in my judgment, if they are well managed, may have a very extensive development, as the consumers' society and the loan and building association have already had in England and the United States respectively. Such associations have a much better chance of being organized, and of enduring when organized, than ambitious manufacturing companies founded by workmen on cooperative principles.

XIV.

If wages do fall, would not the condition of the laborer deteriorate and a belief in further progress be logically impossible? Not necessarily. I have called attention to the fact that wages fell in California as communication with the rest of the United States became freer, but we have seen that wages increased in the United States as a whole, and the condition of the laborer improved. Communication with Europe may have a similar effect upon the United States, and the wage-level of the civilized world may rise as that of the United States descends—an outlook which though in harmony with the law of progress, is not reassuring to the American workman.

But in all probability improvements in production will be made and the abundance of products will lower their price and thus reduce the cost of living. In this event, if the currency be not debased, *real wages* will gain by the rise in the purchasing power of money what nominal wages will have lost. And the important thing is the real wage—the quantum of comfort that the laborer can procure in exchange for his labor.

Whether a rise of real or nominal wages would solve the social problem is another cognate question. From the standpoint of comfort, we may affirm that it would contribute to the elevation of the laborer's standard of living. But from the point of view of social harmony, the answer would be negative rather than affirmative, because it is not

the poverty-stricken laborer who disturbs himself about higher wages; on the contrary, it is those who have resources enough to support organized resistance, and sufficient intellect and pretensions to pursue social reformation and take part in politics.

XV.

It is very probable that new forms of *provident institutions*—mutual aid, insurance, pensions, etc.—will have been devised, in addition to those we now have, and that these will have been multiplied and consolidated by time and experience. It is certainly desirable that this should be so, and the progress already accomplished in the last fifty years augurs well for the future.

XVI.

Despite the advantages of education and experience that will be theirs, the laboring classes will retain their susceptibility to the blandishments of innovators, among whom will be found honest enthusiasts, malignant pessimists, and ambitious demagogues bent on currying popular favor.

In his work entitled *The Labor Movement in America*, Professor Ely describes the infirmities of society, and after concluding that the situation is unendurably bad, proposes four remedies: the labor-union, the school, the state and the church.

I have just expressed the opinion that the union will give greater force to the demands of the workmen and will exert an important influence in determining the equilibrium between the demand for and supply of labor, but it will not settle all difficulties.

It will be within the power of the state to do much good by enacting laws for the regulation of workshops, unsanitary dwellings, immigration and arbitration; four important matters in which the state may rightfully interfere, although such interference has already been excessive at times. The Americans should be careful to avoid this excess.

The state will also be able to monopolize certain industries destined to this end, and the Americans may possibly be led into extremes in this direction. But state regulation and ownership will change neither the rate of wages—whatever it may be—nor the prices of commodities, nor the general status of the laborer, if the general conditions of wealth and production are not changed.

In America, as in Europe, the encroachments of the *public authority* upon the domain of private industry will constitute a standing menace. This is a movement of which we must be the more watchful, because the line of demarcation between what the state should and should not undertake is very obscure, varies according to circumstances, and is in continual danger of being passed from the pressure which democracies exert upon their governments to cross it. It will be the duty of the enlightened citizens and the real statesmen of America, I do not say of the politicians, to resist this pressure.

I have been all my life a devoted advocate of the *school*, and I firmly believe in the power of education to develop intelligence, to increase productive power, and to form a national spirit. The Americans have a keen appreciation of what they owe to their educational system, whose methods and benefits I have described in another work.⁴⁵ But the school does not regulate the conditions of labor and the production of wealth. Primary education arouses the intelligence, renders the people capable of doing their work more economically, and interests them in social questions; but it is too elementary to inculcate in the youthful mind sound ideas upon subjects with which the instructors themselves are often unfamiliar, and it leaves the people open to utopian doctrines which please their sense of distributive justice and seem to them favorable to the interests of their class.

⁴⁵ *L'Enseignement Primaire dans les Pays Civilisés*, Berger-Levrault, Paris, 1897.

The *church* exercises a powerful spiritual influence upon its members; Catholic or Protestant, it teaches charity and resignation. Charity may be of assistance by inspiring in the higher classes a greater interest in institutions of patronage and relief, but resignation is repudiated to-day by the great majority of workmen; they aspire to increase their material welfare, believe they have a right to greater comfort, accuse the employers of frustrating their efforts, and desire open battle in order to conquer their oppressors.

The church is on the highest moral ground when it endeavors to reconcile the classes by teaching the brotherhood of man, when it recalls to men's minds what are the necessary and fundamental principles of civil society, and when it attempts to apply these principles in works or institutions of social solidarity.⁴⁶ But even in the church there are members who undermine the foundations of society in the hope of rearing an entirely new structure upon an ideal plan of human brotherhood.

XVII.

Thirty years from now the economic principles of production and distribution will be the same as they are to-day. But *customs* will probably be modified, and it is to be hoped that employers will be less arbitrary in the expression of their will, that they will assume a more conciliatory attitude in dealing with their employees, that they will permit their employees to associate without interference, and that they will consent to treat with them and their organizations in

⁴⁶ I may quote upon this subject a sentence from the resolutions adopted by the Catholic Congress, held at Chicago, in 1893: "We declare that no remedies can meet with our approval save those which recognize the right of private ownership of property and human liberty." The Congress deplored the antagonistic spirit which has arisen between employers and employees, and recommended conciliation and arbitration, the reform of tenement houses and conditions of living in the cities, Catholic societies of insurance and mutual aid, measures against intemperance, corrupting literature, etc.

large as well as in small industries. Authority is not inconsistent with benevolence on the part of the employer any more than political equality is inconsistent with the subordination of political function. There is much to be done in the way of bringing the one class to an understanding of the needs and feelings of the other, and in inculcating mutual tolerance. Benevolence and tolerance; these are the ideal solutions, according to Professor Ely, who asserts, not without some exaggeration, that workingmen are distrustful and suspicious because they have reason to mistrust the class which opposes every reform profitable to them.⁴⁷

XVIII.

Socialism, like the wage-system, will endure. Its programme, no doubt, will have changed, because the favorite theories of to-day will have given way to new utopias after having demonstrated their powerlessness to accomplish the revolution or evolution which is now presented to the workingman as imminent, just as the old theories of Fourier, Saint-Simon and other reformers, which were stamped with the same promise, have gone out of fashion.⁴⁸ But if those evolutionists who predict that the displace-

⁴⁷ *The Labor Movement in America*, pp. 315, 321.

⁴⁸ In comparing the speeches made in the National Constituent Assembly of 1848 with those made in the Chamber of Deputies in 1896, one finds the same fund of ideas, the same belief that society is on the verge of transformation, and that the precursory signs of this transformation are unmistakable. Saint-Simon and Fourier had said the same thing during the First Empire and the Restoration. Louis Blanc, speaking of letters that had been written to him by manufacturers while he was presiding over the Commission of Labor at Luxembourg, said that nothing could be more decisive, that they constituted the "last will and testament of industry founded upon competition." M. Guesde thinks he has discovered the signs of approaching transformation in the grand capitalistic industries of the present. The social organization founded upon liberty and private property outlived the predictions of Fourier and Louis Blanc, and it will survive the speech of M. Guesde, although it will be disturbed by the agitation produced by the socialistic propaganda.

ment of capitalism by collectivism is imminent and inevitable, will not have the satisfaction of seeing their predictions realized in the early years of the next century, they will at least be allowed to behold a new phase of the socialistic doctrine, whose different characteristics have recently been set forth by an Italian professor, Achille Loria, who is much too indulgent towards the evolutionistic doctrine of Karl Marx for my taste.⁴⁹

Socialism, Proteus like, assumes diverse and even contradictory forms, but always remains the same. Its essence is in the desire for greater enjoyment; in the "struggle for a higher standard of living"; in the affirmation that society, which it calls capitalistic, reserves all the comforts for an undeserving minority and withholds them from the toilers who created them; in the dream of replacing capitalism by a form of association in which all shall be equal,⁵⁰ the workman freed from all subordination to a master, the poor raised up and the rich cast down; in the blind faith that it is possible to devise legal contrivances which will give more leisure to those who are overworked to-day and at the same time assure these comforts to the masses—that is to say, practically, increase social wealth without limit. These feelings and dreams will continue to exercise a powerful attraction over simple and enthusiastic natures, and they will create grave difficulties in the coming generation: they are too pleasing to the hopes and desires of the laborer to disappear.

The force of socialism resides partly in the upward movement which education, industrial progress, the increase of comfort, and the political influence of democracy have imparted to the lower classes: in the United States this force will certainly be quite as powerful in the next century.

⁴⁹ *Problèmes Sociaux Contemporaines*, by Achille Loria, published in the *Bibliothèque Sociologique Internationale*.

⁵⁰ This desire for equality is found in contemporary socialism, but Fourier and the Saint-Simonians admitted the necessity of social inequalities.

They will probably be saying there thirty years from now, what Mr. Gunton said a few years ago: "There never was a time when the demands of the labor question were so urgent nor when the failure to adequately meet those demands by a scientific solution involved so much danger to the well-being and progress of society as it does to-day. Not because there is more poverty or worse degrees of it in the world than in former times, but because it is more intense in kind and dangerous in character."⁶¹

The political assemblies, elected by universal suffrage, will probably contain more socialists than they do to-day.

XIX.

Every age has its problems and its elements of disorder. It is not necessary to resort to evolutionist theories, more pretentious than new, to understand that the chain of social phenomena which follow one another in time is composed of links which hold together without being homogeneous, and that the perpetual change which is the normal condition of the world, usually, but not necessarily, implies a progress; this is the moral of history in all ages. The emancipation of the cities in the middle ages and the religious emancipation of the sixteenth century engendered long agitations, but civilization was not extinguished thereby.

Contemporary economic society may be compared to a ship whose progress necessitates incessant modification of the rigging as parts of the latter become unserviceable. Wage-labor works the ship and the officers mix but little with the crew, while every now and then mutinies occur. But sufficient order is usually maintained and the ship holds her course, with speed dependent upon the wind. But it navigates waters upon which tempests occur and the ship takes water; charity and sympathy must be at the pumps if the ship is to be kept fairly free from water.

⁶¹ *Wealth and Progress*, p. 1.

Social unrest will continue, and upon this point I cannot do better than quote the words of Mr. Gilman: "A sober mind is indispensable in considering what may be done to relieve social troubles. The difficulty is not one of yesterday's birth. It is not at all probable that any generation will put an end to it completely. 'There is no social question,' said Gambetta, 'there are social questions.' There are many of them, and no generation of mankind will answer the last."⁸²

Our century has witnessed an industrial progress greater, more rapid, and more general than any other in history. It is not astonishing that this progress, by increasing wealth and contributing to the intellectual emancipation of the masses through education and the growth of comfort, should have stimulated the desire for enjoyment and have aroused irritating questions about the distribution of the product of industry. When Karl Marx wrote that the political, juristic, religious, and literary phenomena of human societies depend upon the economic factor, he expressed an idea which is partly verified by the facts, although the idea, whose import he exaggerated, was not original with him. It would have been astonishing indeed, if the United States, where this progress has been more wonderful than in other countries, and where minds are free and interest in such matters keen, had remained unacquainted with the questions which agitate western and central Europe.

There will be agitations in the new world thirty years from now. But its vital power is such that I do not believe its vigorous constitution will be debilitated. At bottom, the Americans possess a certain conservatism which does not desert them in the midst of the incessant agitations that occur: "they are like a tree whose pendulous shoots quiver and rustle with the slightest breeze, while its roots enfold the rock with a grasp which storms cannot loosen."⁸³

⁸² *Socialism and the American Spirit*, p. 123.

⁸³ Quoted from Bryce's *The American Commonwealth in Socialism and the American Spirit*, p. 75.

Nothing is singular enough to astonish the American people and they are very fond of new experiences. But sonorous words, when devoid of real meaning, do not deceive them long; in politics, they "love the concrete."¹⁴ The intense democracy that works in their midst has its tumultuous and disquieting outbursts, but till now it has always returned to reason, after a passing ebullition, and continued to prosper. They have faith in their own destiny and are confident of progress; a little intoxicated by their prodigious success, they are prone to believe that the sceptre of civilization is now in their hands. This optimistic faith is itself a barrier against violent revolution.

Despite the agitations which may arise, I do not doubt that the twentieth century will witness a further increase in the prosperity of the United States. Chimerical solutions of the labor questions will succeed no better than they have succeeded in this century, but as in this century on the other hand, and particularly in its latter half, the condition of the laboring class will probably be improved in many particulars. With the Americans' confidence in their own future, I may say of their industry and its problems what I have recently said of agriculture and its problems in the United States: *Fata viam invenient*.

¹⁴ " 'Liberty, Equality, and Fraternity,' these three great words have had magical power over the French mind. In the United States the formula has had no vogue. The American, according to Mr. Bryce, 'is capable of an ideality surpassing that of Englishmen or Frenchmen,' but in the political sphere, as elsewhere, he loves the concrete." *Socialism and the American Spirit*, p. 60.

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